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Effects of Social Support and Heterosexism on the
Psychological Well-Being of Diverse Adults

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Dissertation submitted to the
Eberly College of Arts and Sciences
at West Virginia University
in partial fulfillment of the requirements
for the degree of

Doctor of Philosophy
in
Psychology

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Depression, Self-Esteem
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Abstract

S. Melinda Spencer

Effects of Social Support and Heterosexism on the Psychological Well-Being of Diverse Adults

During emerging adulthood, individuals struggle to form an identity and must develop personal resources to help them cope with life stressors. Lesbian and gay (LG) adults must do this from within a context of heterosexist discrimination, which can negatively influence multiple aspects of psychological well-being. The specific aims of this study were to examine: 1) differences by gender and sexual orientation in psychological well-being, 2) the role of individual characteristics (gender and sexual orientation) and personal resources (mastery and social support) in explaining psychological well-being, and 3) the influence of heterosexism and personal resources on psychological well-being of LGB individuals. The current study used an online survey to examine the influence of social support, personal resources, and heterosexism on the psychological well-being of 332 participants aged 18-30 years. Results indicate that LG individuals experienced higher depressive symptomatology and lower self-esteem than heterosexuals, and lesbian women reported lower life satisfaction than both men and heterosexual women. Across sexual orientation, variations in psychological well-being were explained by personal mastery and social support. Internalized homophobia among sexual minority persons was positively associated with poor psychological well-being, and personal resources helped to explain additional variations in well being. Sexual minority persons appear to be drawing on internal (mastery) and external resources (social support) as a way to protect against the negative influence of internalized homophobia. These findings are consistent with the minority stress paradigm. However, it is possible that for LG individuals in emerging adulthood, the instability which characterizes this stage of life is compounded by the developmental challenges posed by sexual minority status. The current study contributes to the literature by showing that the effects of sexual orientation on well being are reduced or eliminated with the addition of personal resources and that these factors may buffer against the negative effects of heterosexism among sexual minority persons. Future research should focus on collecting longitudinal data across emerging adulthood to better understand developmental differences and coping strategies as a function of sexual orientation. Recommendations are made to reduce heterosexism through support-building and educational interventions.

Dedication

This document, or more importantly what this document represents, is dedicated to three who believed in me above all others but were unable to stick around long enough to see the finished product – to my dearest Uncle Skip, Miss Valentine Xavier, and Mr. Lawrence Frankel.

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Note to the Reader

The American Psychological Association (APA) Committee on Lesbian and Gay Concerns (1991) established the following language preferences as a convention to avoid heterosexist bias in psychological research: Sexual orientation, transgender, lesbian, gay male, bisexual male/female, heterosexual, gender, and sexual partner. For convenience and brevity, either “sexual minority” or the acronym LGB will be used in this paper to refer to lesbian, gay, and/or bisexual persons (LG where appropriate). LGB will also be used at the group level (i.e., LGB adults). The term “homosexuality” will not appear in any part of the paper due to its historical connotations with pathology and criminal behavior (Spencer, 2004, p. viii).

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Chapter 1: Problem Statement

Research on lesbian, gay, and bisexual (LGB) issues has undergone a dramatic evolution over the past 50 years. Social scientists initially focused on LGB orientation from a deficit perspective, with heterosexuality as the implicit standard (Harper & Schneider, 2003). It was not until 1973 that the APA removed LGB orientation from the Diagnostic and Statistical Manual as a mental illness (Blumenfeld & Raymond, 1993). Since then, researchers have shifted their attention to gain a better understanding the LGB experience, including the effects of discrimination, the coming-out process, and the different roles held by LGB adults within society. Although this work has yielded important information about an understudied and often misrepresented segment of the population, it has been criticized for focusing too heavily on the negative consequences associated with LGB sexual orientation (Harper & Schneider).

Researchers in the field of LGB psychology agree that it is not sexual orientation that leads to poor psychological outcomes. Rather, it is the cultural response to LGB identity that leads to these difficulties (Bohan, 1996a; Savin-Williams & Ream, 2003; Waldo, Hesson-McInnis, & D'Augelli, 1998). The negative mental and physical effects of heterosexism and discrimination are manifested throughout the life span of LGB adults (e.g., D'Augelli & Patterson, 1995; Harper, Jernewall, & Zea, 2004; Harper & Schneider, 2003; Meyer, 2001; Rosario, Schrimshaw, Hunter, & Gwadz, 2002; Waldo, 1998). The most recent development in the field of LGB research is an increased focus on the strengths of the LGB group in the face of adversity (Harper & Schneider, 2003). Resiliency can be defined as coping effectively with life's challenges and adapting in the face of adversity, or the ability to "bounce back" when faced with negative events.

Resiliency differs from other constructs such as optimism in that people who are resilient recognize that a given situation is negative or stressful and still experience positive emotions (Tugade & Fredrickson, 2004). Some researchers speculate that LGB adults might actually be more resilient as a result of negotiating the challenges posed by a heterosexist society (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001). To date, however, the sources and extent of this proposed resiliency are largely unknown.

Social support is one of many protective factors used to clarify the nature of group differences in well being. As a multidimensional construct, social support indices typically include instrumental assistance, affective or emotional support, and the provision of information (Rook, 1994). Oswald (2002) found that LGB support networks are created and maintained under varying degrees of adversity but despite these difficulties, support networks “exist, endure, and even thrive” (p. 375). Both actual and perceived aspects of support can affect well being (Sherman, de Vries, & Lansford, 2000; Vandervoort, 2000). Examining the social network of LGB adults is particularly important because in this group, social support may directly influence positive self-identity (Nesmith, Burton, & Cosgrove, 1999) and successful aging (Friend, 1991).

Another factor which might help explain variations in well being is the construct of personal mastery. Personal mastery refers to the extent to which people feel that they have control over their lives (Pearlin & Schooler, 1978). Mastery has been identified as a key component in how one appraises stress; a sense of mastery over one’s environment helps to reduce the effects of stress on well being. Research has shown that mastery, along with other personal and social resources, can reduce distress through both direct and stress-buffering pathways (Felsten & Wilcox, 1992, p. 291).

LGB persons spend the majority of their lives being isolated from their cultural group, and experiences with heterosexism can lead to psychological distress (Meyer, 1995). Consistent with this concept of LGB minority stress, an understanding of personal mastery could have important implications for this population.

One thing that is certain is that the LGB community is currently more visible and active than ever, and researchers recognize the need to better understand the complexities of the LGB life in the current socio-political context. LGB individuals may not experience the same developmental events in the same way as same-aged heterosexuals. Social stigma and the resulting psychosocial consequences of developing in a heterosexist society, as well as the protective factors against these negative influences, must be better understood to build a more inclusive and comprehensive psychology. The purpose of the proposed study is to examine the role of social support, personal resources, and heterosexism on the psychological well-being of diverse individuals in emerging adulthood.

Chapter 2: Introduction

Emerging Adulthood and Lesbian, Gay, and Bisexual (LGB) Individuals

Emerging adulthood describes the unique period of development between the ages of 18 and the late-20's when an individual is no longer an adolescent but cannot be accurately classified as an adult (Arnett, 2000). This concept was first introduced in response to the demographic trend in Western society to postpone marriage and childbirth. Emerging adulthood is distinct demographically; individuals aged 18-30 are characterized by diverse living arrangements, instability in their residence, and a non-linear educational trajectory. People in this age group undergo a great deal of change as they explore relational love, employment, and different worldviews in the formation of their identities (Arnett, p. 473). Individuals in emerging adulthood also feel like they are not yet adults, but are working toward adulthood by developing greater responsibility and independence from their families of origin. This dynamic and fluid developmental stage provides a context for understanding development among diverse individuals, a context defined by personal change, demographic variability, and identity exploration.

LGB individuals represent a collective group whose lives are shaped by a culture pervaded by heterosexism (Blumenfeld & Raymond, 1993). Heterosexism refers to the privileging of heterosexuality and the assumption that heterosexuality is the only acceptable life option (Waldo, 1999). It has largely replaced use of the term homophobia in the literature to describe anti-LGB prejudice, although these terms have conceptually different meanings (Neisen, 1990). As Herek (2004) explains, homophobia is limited in its utility because of its historical association with fear, pathology, and androcentrism. Although the term homophobia has helped raise

awareness about irrational hatred and discrimination against LGB persons in society, the concept of heterosexism “can be used to refer to the systems that provide the rationale and operating instructions for that antipathy” (Herek, p. 15). The result of heterosexism on the LGB person, internalized homophobia, remains a useful term in scholarship to describe a sense of negative feeling towards oneself as a result of societal views on LGB orientation (Herek, Cogan, Gillis, & Glunt, 1997). Understanding the role of heterosexism, both on the self and within society, is critical for the development of LGB persons.

LGB issues can help inform the study of mainstream developmental psychology by contributing to the limited literature on this segment of the population (Goldfried, 2001). LGB adults share a unique history of discrimination, marginalization, and negative stereotyping as a result of their sexual orientation (Kimmel, 2000). In many ways, LGB adults experience the same developmental tasks and milestones as heterosexuals. These individuals also face additional stresses and developmental variations associated with negative societal attitudes. Marginalization by a heterosexist society, the psychological consequences of internalized homophobia, maintenance of relationships in the face of stigma, and discrimination management are just a few of these challenges (Bohan, 1996a; Reid, 1995). The ultimate goal for LGB persons is the negotiation of life events and the development of a positive identity in the context of external oppression (Gonsiorek, 1995). Across the life span, it is the mainstream and often hostile culture which creates the backdrop for LGB identity formation.

The coming-out process and resultant identity formation are two interrelated concepts relevant to the development and adjustment of LGB persons in emerging

adulthood. The coming-out process refers to an often lengthy and ongoing series of realizations that can occur at any stage of life. Coming out includes not only embracing one's own identity, but also disclosing this identity to others (Blumenfeld & Raymond, 1993). Individuals must actively develop a sense of self during their life, a process known as identity formation, and learn to manage the social roles which accompany one's place in society (Bohan, 1996b). Identity formation characterizes the time in the coming-out process during which an individual questions whether he or she is LGB and explores this emerging identity (Rosario, Schrimshaw, & Hunter, 2004). This process may be difficult on a personal level; heterosexist attitudes are often internalized, so an essential element of the coming-out process means going against a lifetime of learned cultural norms. As Bohan (1996a) describes, the "intertwined tasks of identity development, stigma management, and coming out lie at the very heart of LGB experience; this complex process creates who one is and negotiates a place for that identity in a painfully hostile world" (p. 121).

Qualitative data can be particularly useful for providing information on identity formation among LGB persons. In a study by Flowers and Buston (2001), 20 in-depth interviews were conducted to identify some of the characteristics of gay identity formation. Through interpretative phenomenological analysis of the participants' retrospective accounts, the authors identified six emergent themes salient to understanding identity formation: "defined by difference", "self-reflection and inner conflict", "alienation and isolation", "living a lie", "telling others", and "wholeness and integrity." From their results, the authors concluded that heterosexism influences every aspect of the construction of identity (Flowers & Buston).

Identity formation for LGB adults is further complicated by feelings of internalized homophobia. People internalize the norms and values proscribed by their surrounding culture and discrepancy between these ideals and reality can lead to internal conflict (DiPlacido, 1998). In a study of 147 LGB adults aged 16-68 years, higher scores on an adapted form of an internalized homophobia scale were associated with higher depressive symptomatology and lower self-esteem, especially for gay men. The authors suggested that lesbian women experience lower internalized homophobia and that homophobia is less linked to self-esteem among women (Herek et al., 1997). A clear need exists to better understand both the external and internal risk factors associated with LGB orientation using multiple measures of heterosexism (Savin-Williams & Ream, 2003).

Heterosexism as Minority Stress

Sexual minority status differs from identification with other minority groups; disclosure is optional, economic oppression is less predictable, and it is the only minority status which is organized horizontally (i.e., not intergenerational; Gonsiorek, 1995; Kimmel, 2004). Unlike other minority groups, LGB adults must understand and integrate their minority status alone, often with no support from their communities of origin and without formal protection against discrimination (DiPlacido, 1998; Gonsiorek; Harper & Schneider, 2003). Meyer (1995) proposed a theory of minority stress which suggested that LGB persons, unlike other minorities, spend the majority of their lives being isolated from their cultural group. Sexual minorities are not born into their own cultural group and often do not gain support from similar others until later in life. According to this theory, experiences with heterosexism also reinforce the minority

status of LGB persons across three separate components: internalized homophobia, perceived stigma, and prejudice events (Meyer; Waldo, 1999). Consistent with the LGB minority stress theory, experiences with heterosexism can lead to psychological distress among sexual minorities.

As a construct, heterosexism occurs in multiple social contexts and can be divided into cultural heterosexism, manifested through institutional policies and societal customs, and psychological heterosexism, which is perpetrated through attitudes and behaviors (Harper et al., 2004). Both have been associated with reduced self-esteem and increased risk for psychological distress in LGB populations (Waldo et al., 1998). Developmental theorists have noted that individual development involves a succession of changing relations between a person and the other levels of organization within that person's development system, such as the family, school, or culture (Lerner, 1996). Since heterosexism originates from various sources and can be viewed from multiple levels of analysis, researchers must incorporate both individual- and setting-level approaches to fully understand the effect of heterosexism on development across the life span (Chesir-Teran, 2003). One of the most common settings for research on cultural and psychological heterosexism in the early part of the life span is the educational system (Friend, 1998).

At all levels, the school environment can be a dangerous place for LGB students; outward manifestations of heterosexism are common and include assault, verbal abuse, and property destruction. LGB young and emerging adults often face social, legal, and institutional heterosexism without an adequate support system in place (Munoz-Plaza, Quinn, & Rounds, 2002). The social manifestation of institutionalized heterosexism is

referred to as “school-climate,” and school-climate research has focused on general perceptions of attitudes toward LGB adults (Waldo, 1998). Even among teachers and school administrators, the belief that LGB identity is pathological continues to persist (Treadway & Yoakam, 1992). Institutionalized heterosexism in the school environment will influence the developmental experience of all adolescent and emerging adults, regardless of sexual orientation. Schools vary in terms of heterosexist attitudes, but students in highly heterosexist environments are more susceptible to maladaptive outcomes. System-level features related to the level of heterosexism in schools include resources, policies, curricula, and services specific to LGB students (Chesir-Teran, 2003). In the future, one way to better understand heterosexism in the school system and a potential place for intervention is by measuring the availability of LGB resources in a given environment.

A Theoretical Shift: Focus on Resiliency

Researchers in the field of LGB psychology agree that it is the cultural response to LGB identity which leads to psychological difficulties (Bohan, 1996a; Savin-Williams & Ream, 2003; Waldo et al., 1998). It has also been argued that the focus on negative correlates of LGB identity is likely an artifact of methodological problems (i.e., overrepresentation of troubled youth in empirical studies). A new focus in the literature is on the resiliency of LGB individuals (DiPlacido, 1988; Harper & Schneider, 2003; Russell & Richards, 2003; Savin-Williams & Ream, 1995). For example, some researchers speculate that the positive influence of the coming-out process and identity formation continue throughout the life span. Developmental psychologists have found that poor well-being is not necessarily predicted by contextual risk factors or by the

objective difficulties one faces in life. This observation, called “the paradox of well being” (Mroczek & Kolarz, 1998), might be relevant to the study of LGB adults across the life span.

Coming out to others and developing a positive identity may provide LGB adults with a sense of crisis competence which buffers them against later crises (Kimmel, 1978). It is possible that LGB individuals are effectively coping well with the negative effects of heterosexism. The finding that psychopathology is not high among middle-aged LGB adults suggests that these individuals have handled the challenges of heterosexism and have emerged intact and perhaps stronger (D’Augelli & Hershberger, 1993). This has led researchers to examine what personal and social resources help facilitate successful coping during this difficult time.

Developmental theories specific to the LGB population have been presented in the literature. According to Friend’s (1991) theory of successful aging, achievement of a positive sexual identity places an LGB adult at a distinct advantage for continued adaptations to the challenges of aging. Role changes associated with age may be less severe for LGB adults, primarily because gender roles are more flexible for this group than they are for same-aged heterosexuals (Berger, 1982). But the cornerstone of Friend’s theory is achievement of a positive identity based on rejection of the bias and stereotypes of the larger group (i.e., heterosexuals). After rejecting society’s negative evaluation, LGB adults reconstruct a set of attitudes, feelings, and values that allow for an affirmative self-identity, the emergent psychological attributes of crisis competence, and flexible gender roles (Friend, 1987, 1991; Reid, 1995). From this perspective, self-

identity and well being of an LGB adult may be greatly determined by the social context, which in turn will influence their adaptation to aging (Reid).

Personal Resources

Across sexual orientation and throughout the life span, the personal resources of mastery and social support can help protect individuals against poor psychological outcomes. Personal mastery is defined as the extent to which people feel that they have control over the forces which influence their lives (Pearlin & Schooler, 1978). Coping describes a person's response to stressful situations (Diener, Suh, Lucas, & Smith, 1999), and research has found that psychological well-being can be affected by both the content and style of coping. Personal mastery assesses coping by measuring the extent to which a person feels he/she can influence life events (Pearlin, Menaghan, Liberman, & Mullan, 1981). Anderson (1998) has characterized mastery as one of the strengths that sexual minorities "use diligently to make their way through an adolescent experience filled with minefields" (p. 68). In college-aged students, mastery has been found to moderate the relationship between number of stressors and total perceived stress (Felsten, 1991) and was directly associated with reduced depression and anxiety (Felsten & Wilcox, 1992). Personal mastery might be especially important during emerging adulthood because instability and rapid life changes will likely produce multiple stressors.

Social support is a general term used to describe a wide array of constructs, including the concept of social network, actual support, and perceived support (Antonucci, 2001; Krause, 2001). The social network, or those individuals with whom interpersonal relations are formed, is a strong source of informal support. The social

network is typically described in the literature using objective characteristics; although these characteristics may provide important information about the source and quantity of support, they fail to provide information about relationship quality (Antonucci, 2001). Rook (1994) noted that there can be costs associated with having an extensive support network (Rook). Of the different measures of social support, perceived support (i.e., quality or function of social support) has the strongest association with a person's health and well being (Antonucci, 1991; 2001; Krause, 2001; Lang, Staudinger, & Carstensen, 1998; Sherman et al., 2000; Vandervoort, 2000).

Individual characteristics such as gender and sexual orientation can influence social support and social interaction across all ages. Women and men have different roles and experiences over the life span, contributing to a life-long difference in the formation and maintenance of social relationships (Moen, 2001). Women have more network members, more intimate relationships, and a greater number of social exchanges (Antonucci & Akiyama, 1995). Although women may have closer ties than do men, these ties are also more burdensome for women than they are for men (Moen). Rook (1984) suggests that because interpersonal conflict arises even in the closest relationships, both negative and positive aspects of interpersonal ties should be examined in models of social interaction.

Informal social support, coupled with support from the LGB community, can help LGB adults achieve a positive identity and protect against the negative consequences of stigmatization and heterosexism (Bohan, 1996a; DiPlacido, 1998). The formal support provided by the LGB community provides safe space and cohesion for its members (Meyer, 2001). LGB adults who have historically been isolated from social support

systems have found safe havens and opportunities for socialization within the LGB community (Harper & Schneider, 2003). Although this source of support is more prevalent now than ever, younger LGB adults are less able to access this community. Part of this isolation is due to discomfort with one's own identity, but it is also difficult for LGB adults to serve as role models for fear that they will be accused of misconduct with a minor. Both informational and tangible supports are less available for younger adults, thus making the transition to LGB identity more difficult (Bohan, 1996b; Waldo et al., 1998). Fear of disclosure places young adults at risk for victimization, primarily because it isolates these individuals from helping resources. Formal support from the LGB community mitigates the psychological consequences of victimization (Waldo et al., 1998). In the future, more organized formal support systems will help LGB adolescents with the transition to adulthood (Bohan, 1996a, 1996b).

In general, LGB adults are well integrated in social networks (Berger & Kelly, 1996) but possess a unique family constellation not readily understood with the existing models of family relationships and social support (Bohan, 1996b). Previous research using relatively small samples has shown that the family support system of LGB adults is reinforced by support from friends (Berger, 1982, 1984; Friend, 1987). Researchers refer to these strong friendship networks as fictive families, families of choice, or fictive kin (Berger & Kelly, 1996; Weston, 1991).

Much of the information that is available on social support among LGB adults comes from qualitative studies. Nesmith and colleagues (1999) conducted an investigation on the perceived social support of sexual minorities. Results indicated that most supporters of LGB identity were non-family (i.e., families of choice) and that

integration in the formal LGB community was important for well being. The authors concluded that developing social support networks and a sense of community were key protective factors for LGB adults (Nesmith et al., 1999). In one of the few quantitative studies available, Hershberger and D'Augelli (1995) found that in a sample of 165 LGB younger adults, self-acceptance and family support mediated the relationship between heterosexual victimization and psychological distress. Furthermore, identity support from family and heterosexual friends actually reduced LGB victimization (Hershberger & D'Augelli, 1995; Waldo et al., 1998).

In a recent study of middle-aged and older adults, Spencer (2004) investigated how social support variables interface with gender and sexual orientation. Specifically, the focus of this study was on the differential role of families of origin versus families of choice on psychological well-being. Results indicated that LGB and heterosexual adults reported similar overall social support, a finding supported by previous research (Dorfman et al., 1995; Grossman, D'Augelli, & Hershberger, 2000; Grossman, D'Augelli, & O'Connell, 2001). LGB adults reported the same network size as heterosexuals but with significantly more members in the family of choice. In addition no group differences emerged on the number of family members reported in the social network. Although no overall differences in positive and negative social interactions were detected, the source of support (family of origin vs. family of choice) did have a differential effect on social interactions. Social interactions in general, and negative interactions in particular, were more predictive of dimensions of well being than were the individual characteristics of gender and sexual orientation. Thus, the biological family (i.e., family of origin) of LGB adults appeared to be reinforced, but not replaced, by support from families of choice

(Berger, 1982, 1984; Friend, 1987; Spencer, 2004). An area for further investigation is how formal and informal supports work in tandem with other personal resources to protect LGB individuals from the negative effects of societal heterosexism and internalized homophobia.

Psychological Well-Being

Psychological well-being can be conceptualized as overall life satisfaction (Neugarten, Havighurst, & Tobin, 1961) and includes both the presence of positive experiences (e.g., self-esteem) and the absence of negative emotional states (Diener et al., 1999), such as depressive symptomatology. Most researchers agree that LGB persons are at risk for poor mental health outcomes as a result of societal heterosexism and gay-related stress (Herek et al., 1997; Meyer, 2001; Rosario et al., 2001, 2002). Anderson (1998) found that LGB young adults reported positive self-esteem and mastery levels comparable to same-aged heterosexuals. In a sample of 1067 LGB adults, self-esteem was the strongest predictor of depression (Otis & Skinner, 1996). It is evident that self-esteem, particularly during identity formation, plays an important protective role in the lives of LGB persons (D'Augelli & Patterson, 1995; Herek et al.; Rosario et al., 2001; Savin-Williams & Ream, 2003).

Gender differences have been observed with regards to psychological well-being across the life span. Paradoxically, women report higher levels of negative emotional states and higher levels of positive experiences relative to men (Smyer & Qualls, 1999). Regarding sexual orientation, lesbian identity is correlated with high self-esteem in young adulthood (Bohan, 1996b; Herek et al., 1997). This gender by sexual orientation interaction has also been observed later in the life span, with older lesbian women

faring particularly well compared to either heterosexual women or gay men (Claes & Moore, 2000; Friend, 1991; Quam, 1982; Spencer, 2004). Some research has suggested that gay men may exhibit lower levels of well being because they are part of a community which extols youth, physical attractiveness, and sexual prowess (Claes & Moore, 2000). Others have hypothesized that younger men have higher levels of internalized homophobia, thus resulting in more negative well being (Herek et al., 1997). Gender differences have been observed in personal mastery, where lesbian women report lower levels of mastery compared to gay men (Otis & Skinner, 1996). It is unclear which personal resources, mastery or social support, would have the greatest influence on well being. Thus, multiple measures of key constructs must be examined.

In sum, the literature in this area is mixed; some researchers believe LGB identity is detrimental, while others propose that negotiating the difficulties associated with sexual minority status may protect a person against developmental challenges. Social resources are interrelated to personal resources, and both are affected by one's environmental context (Hobfoll, Freedy, Lane, & Geller, 1990). The interface of personal resources and societal attitudes has not been examined extensively among LGB individuals in emerging adulthood, and many of the studies have not been guided by theory. In response, the purpose of the proposed study is to examine the effects of personal resources (mastery and social support) and societal attitudes (heterosexism) on the psychological well-being of diverse younger adults. Specifically, the aims of the proposed study are to:

Specific Aims and Research Hypotheses (Conceptual Model presented in Figure 1)

Specific Aim 1: Examine differences by gender and sexual orientation in the psychological well-being of individuals in emerging adulthood.

H1: A main effect is expected for gender, with women reporting higher positive and higher negative well-being than men (Diener et al., 1999).

H2: A main effect for sexual orientation is not expected (Spencer, 2004). That is, differences in positive and negative well-being are not expected between heterosexual adults and LGB adults.

H3: A gender by sexual orientation interaction is expected, with lesbian women reporting the highest well being of the four groups (Bohan, 1996a).

Specific Aim 2: Examine the role of individual characteristics (gender and sexual orientation) and personal resources (mastery and social support) in explaining psychological well-being of individuals in emerging adulthood.

H4: Across gender and sexual orientation, it is expected that informal social support will help explain variations in psychological well-being (positive association; e.g., Antonucci & Akiyama, 1995).

H5: Across gender and sexual orientation, it is expected that personal mastery will also explain variations in psychological well-being (positive association; e.g., Anderson, 1998; Felsten & Wilcox, 1992).

Specific Aim 3: Examine the influence of personal resources and internalized homophobia on psychological well-being of LGB individuals.

H6: Internalized homophobia will be negatively associated with psychological well-being, while personal resources will be positively associated with well being (e.g., D'Augelli & Patterson, 1995; Harper & Schneider, 2003).

Research Question: Examine heterosexuals' attitudes and knowledge of LGB orientation and determine if certain aspects are nominated more than others.

Chapter 3. Method

Participants

A total of 332 participants, ages 18-30 years, completed on-line surveys designed to investigate the effects of personal resources and societal attitudes on the psychological well-being of emerging adults. The final sample included 32 gay men, 61 heterosexual men, 34 lesbian women, and 179 heterosexual women. Two cases were excluded due to missing data on sexual orientation and the remaining 24 bisexual men and women were excluded from all between-groups analyses. Because the only age limit placed on participation was a minimum age of 18 years, all age associations with key variables were explored prior to carrying out statistical analyses. Gender identity was a topic beyond the scope of the current project and thus, transgender individuals were not included in the study. The research protocol was approved by the West Virginia University Institutional Review Board (HS# 15637).

Power Analysis

The goal of the proposed study was to obtain equal cell sizes, but recruitment procedures resulted in unequal cell sizes and a primarily young, heterosexual female sample. The unequal n across cells was due to the nature of recruitment (i.e., the majority of undergraduates in the area are female). Thus, the cells were not artificially equalized due to the risk that group differences would be distorted and therefore limit generalizability (Tabachnick & Fidell, 2001). The decision was made to keep all heterosexual participants and conduct a *post hoc* power analysis using G*Power® Version 2.0 (Faul & Erdfelder, 1992) to ensure that the sample size was acceptable for the analyses. Results of the power analyses indicated that based on extrapolating the

smallest cell size (gay men $n = 32 \times 4$ groups), $N = 128$ would provide sufficient power (power $> .80$) to detect medium-sized effects ($f = .30$) for the four groups (Critical $F(3, 124) = 2.67, p < .05$). For the hierarchical regression models, a sample size of 306 (missing data and data from bisexual participants excluded) was also more than sufficient to provide statistical power (power $> .99$) to detect medium-sized effects ($f^2 = .15; p < .05$) using five predictors. Finally, for the within-group analysis of internalized homophobia among LGB participants, the sample size of 68 provided sufficient power (power $= .86$) to detect medium-sized effects ($f^2 = .20; p < .05$) using three predictors in the regression models (Critical $F(3, 64) = 2.75$).

Recruitment

Recruitment efforts focused on the internet with additional, more concentrated efforts in the Morgantown, West Virginia area. Research announcements (Appendix A) were sent to online LGB newsgroups and to the contacts listed on LGB social group websites. The hyperlinked web address for taking the survey was provided in all study announcements. In addition to online recruitment, the Morgantown area includes a number of LGB-affirmative organizations and a strong communication network with the local and college LGB communities. One way to protect the privacy of LGB participants is to ensure that recruitment procedures are non-intrusive and respect organizational boundaries. Thus, a variety of strategies aimed at diverse and otherwise invisible sections of the community were used (Herek, Kimmel, Amaro, & Melton, 1991) to advertise the online survey.

First, agencies and organizations that specifically serve LGB persons – such as the student LGB support group for West Virginia University students – were contacted

for flyer distribution and research announcements. At no time did the researcher openly solicit participants on an individual basis. Out of respect for organizational boundaries, research announcements at local LGB organizations were made by proxy (i.e., through the organization presidents and/or committee chairs). Second, “snowball sampling” was employed; participants were provided with online announcements and asked to forward these to LGB friends/family who might be interested in participating in the study. Berger (1984) found this strategy to be particularly useful for recruiting participants who do not frequent LGB groups or organizations. To counterbalance potential sample selectivity resulting from these methods, recruitment efforts were also carried out in local bookstores, coffeehouses, and bars. Recruitment for the heterosexual group paralleled the strategies used to recruit the LGB group. The heterosexual group was also a convenience sample recruited using online methods and a similar community-based approach. Young adults were offered extra credit for an undergraduate psychology course for their participation, which contributed to the primarily young, heterosexual female sample.

Materials and Measures

Background and Control Variables

The self-report survey instrument included a variety of background and demographic measures, including year of birth, gender, race, residence, living arrangement, length of time at current residence, sexual orientation, age at which participant realized sexual orientation, religion, relationship status, employment/school status, college, education, and ability to pay bills (Appendix B). Single-item questions were used to assess all constructs with the exception of sexual orientation. Consistent

with recent literature (Rosario et al., 2004; Savin-Williams & Ream, 2003), sexual orientation was assessed using a 7-point, Kinsey-type scale with responses ranging from 0 = "exclusively heterosexual" to 6 = "exclusively lesbian or gay." Individuals who self-identified as a 0 ("exclusively heterosexual") or 1 on the scale were categorized as heterosexual while individuals rating a 4-6 were categorized as lesbian or gay. Participants who selected middle anchors 2-3 were coded as bisexual and were excluded from the between-groups analyses.

Social Support

Social network structure and composition was indexed using a self-administered convoy model adapted from Kahn and Antonucci (1980). The term 'convoy' refers to the protective layer of friends and family who surround an individual and exchange social support with that individual (Antonucci & Akiyama, 1987; 1995). This model classifies network members on a continuum from "inner circle" to "outer circle," with each circle representing a different level of closeness (Antonucci & Akiyama, 1987). Participants were asked to indicate the first name, age, length of relationship, and relationship (e.g., brother, partner, friend) of up to 14 individuals. These individuals were classified into one of three categories: Those who were "so important it is difficult to imagine life without" (inner circle), those to whom the respondent feels "not quite that close, but who are still very important" (middle circle), and those who "are close enough and important enough in your life that he/she should also be placed in your network" (outer circle). The convoy model is traditionally used during in-person interviews (Antonucci & Akiyama, 1995) and was adapted to be more appropriate for self-administered methodology (Appendix C). The modified version was used in a previous

study and results suggested that the adapted version was more user-friendly and resulted in greater response variability (Spencer, 2004).

The function of social support was assessed with the Medical Outcomes Study Social Support Survey (MOS-SSS; Sherbourne & Stewart, 1991). The MOS-SSS provides information which is distinct from structural measures of social support. This 19-item scale assesses of several domains of social support including tangible support, emotional support, affective support, and positive support. Participants were asked how often each of the following kinds of support was available to them if needed (e.g., “Someone you can count on to listen to you when you need to talk”; “Someone to love you and make you feel wanted”; “Someone to have a good time with you if you need it”). Responses were presented on a five-point Likert scale, with 1 = “None of the time” and 5 = “All of the time.” Although there were some missing data on individual scale items ($n = 11$), an 80% present criterion was applied to impute individual item mean values for the total scale, resulting in 5 missing cases and a final sample size of $N = 327$. In the current study, the scale showed a high internal consistency (Cronbach's $\alpha = 0.96$; Appendix D)

Personal Mastery

Personal Mastery, as described by Pearlin and Schooler (1978), was used to measure ego strength. This construct is measured using the seven-item Personal Mastery or Mastery scale (Appendix E). This measure assesses generalized expectations about the extent to which one can influence events in one's life, tapping the consciously-controlled cognitive-affective aspects of sense of control. The scale includes the following: (a) “I have little control over the things that happen to me”; (b)

"There is really no way I can solve some of the problems I have"; (c) "What happens to me in the future mostly depends on me"; (d) "There is little I can do to change many of the important things in my life"; (e) "I often feel helpless in dealing with the problems of life"; (f) "Sometimes I feel that I'm being pushed around in life"; and (g) "I can do just about anything I really set my mind to do." Items were answered using a five-point agree-disagree format, with 5 = "Agree a lot" and 1 = "disagree a lot." Scores on the scale range from 7 to 35, with lower scores indicating less personal control. Test-retest reliability is .91, according to the developers of the scale. Although there were some missing data on individual scale items ($n = 5$), an 80% present criterion was applied to impute individual item mean values for the total scale, resulting in 3 missing cases and a final sample size of $N = 329$. Internal consistency was acceptable in the current sample (Cronbach's $\alpha = 0.79$).

Internalized Homophobia

Based on self-reported sexual orientation, participants were directed to complete one of two scales to better understand heterosexism within the sample. The data from these scales were used for the within-group analyses. LGB participants were administered a version of the internalized homophobia measure adapted for self-administration by Herek and colleagues (1997). This nine-item measure has shown acceptable internal consistency and convergent validity in a previous study with a community sample of 147 LGB adults aged 18 years and older. In the previous study, Cronbach's $\alpha = 0.71$ for the women and $\alpha = 0.83$ for the men (Herek et al., 1997). For this measure, participants were instructed to indicate the extent to which they agree with each of nine items using a five-point response scale ranging from "strongly agree" to

“strongly disagree.” Example items include, “I feel that being LGB is a personal shortcoming for me” and “I have tried to become more sexually attracted to (the opposite sex).” In the current sample there were 64 valid cases. The Internalized Homophobia Scale showed high internal consistency $\alpha = 0.91$ (Appendix F).

Heterosexism

To better understand heterosexism, self-identified heterosexuals were instructed to complete the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH; Worthington, Dillon, & Becker-Schutte, 2005). This 29-item scale is a measure of lesbian/gay/bisexual affirmativeness and knowledge. Recent empirical work across multiple studies used large samples of young adults in an attempt to test the reliability and validity of this scale. Results indicate that this scale had good psychometric properties (internal consistency and discriminant, convergent, and construct validity) and represents a more appropriate way to measure heterosexism than traditional measures which focus solely on negative attitudes (Worthington et al., 2005). The measure is broken into the following five subscales, all showing moderate to good internal consistency (Worthington et al.): Hate (six items, $\alpha = 0.78$); Knowledge (five items, $\alpha = 0.80$); Civil Rights (five items, $\alpha = 0.88$); Religious Conflict (seven items, $\alpha = 0.73$); and Internalized Affirmativeness (five items, $\alpha = 0.74$).

The LGB-KASH has been extensively used in online survey format. Responses to the items were presented on a six-point Likert format ranging from 1 = “very characteristic of me and my views” to 6 = “very uncharacteristic of me and my views.” In the current study, the five subscales all showed moderate to good reliability, comparable to the reliability estimates reported by the authors: Hate (six items, $\alpha =$

0.82); Knowledge (five items, $\alpha = 0.83$); Civil Rights (five items, $\alpha = 0.87$); Religious Conflict (seven items, $\alpha = 0.71$); and Internalized Affirmativeness (five items, $\alpha = 0.82$). Subscale scores were obtained by averaging ratings on items receiving a response for each participant. This method ensured comparable scores with missing data present (Appendix G).

In the current study, the researcher conducted an objective resource inventory of the formal LGB support system available at West Virginia University. Colleges and universities have recently attempted to document the scope of heterosexism on campuses and in the surrounding communities. Consistent with work by Eisenberg and Wechsler (2003) on system-level analyses, the researcher used a series of 10 criteria to calculate an index of resources for LGB students who are currently attending West Virginia University. This provided system-level data relevant only to a subsample of the study population. The information gained from this inventory will be provided to the Office of Social Justice to inform future LGB programming and service provision.

The scores calculated on this index by the researcher were compared with scores provided by two other individuals in the West Virginia University system: the co-chair of the Council on Sexual Orientation and the West Virginia University Safe Zone® Coordinator. A 100% agreement was reached between the three raters. On a scale of 0-20, with 20 representing a high number of campus resources for LGB individuals, West Virginia University received a score of 11 (Appendix H).

Psychological Well-Being

Psychological well-being is a multidimensional construct (Diener et al., 1999). Thus, multiple indicators were used, including depressive symptomatology, self-esteem,

and life satisfaction. Depressive symptomatology was assessed using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a multidimensional screening instrument for mood disorders and acute depressive symptoms experienced over a seven-day period (Appendix I). Respondents indicate how often they felt each way during the past week; “rarely” (<1 day), “sometimes” (1-2 days), “occasionally” (3-4 days), or “most times” (5-7 days). The CES-D is one of the most widely-used measures of depressive symptoms across populations and has shown good internal consistency (Cronbach’s $\alpha > 0.85$) and test-retest reliability ($r > 0.50$; Radloff, 1977). Although there were some missing data on individual scale items ($n = 19$), an 80% present criterion was applied to impute individual item mean values for the total scale, resulting in 5 missing cases and a final sample size of $N = 327$. Reliability analysis for the current study showed that the scale had a high internal consistency (Cronbach’s $\alpha = 0.90$).

Self-esteem refers to belief in one’s worth, competence, and capacity for success, an overall evaluation of one’s value (Rosenberg, 1965). Self-esteem was assessed using Rosenberg’s (1965) 10-item scale (RSES; Appendix J), which has been used in previous studies of LGB youth (Rosario et al., 2001; Waldo et al., 1998). This scale has been used to better understand how institutional contexts and personal characteristics relate to the concept of self-esteem. Responses were presented on a four-point Likert scale ranging from “strongly agree” to “strongly disagree.” The RSES has shown acceptable reliability in previous studies of LGB and heterosexual adults (Cronbach’s $\alpha = .87$, Hershberger & D’Augelli, 1995; Cronbach’s $\alpha = .86$, Rosario et al., 2001). According to the author, this scale has also shown good convergent validity with

other measures of self-esteem. Although there were some missing data on individual scale items ($n = 10$), an 80% present criterion was applied to impute individual item mean values for the total scale, resulting in 4 missing cases and a final sample size of $N = 328$. In the current study, reliability for the RSES as measured by internal consistency was high (Cronbach's $\alpha = 0.89$)

Life satisfaction was measured using the 20-item Life Satisfaction Index: A (LSI-A; Neugarten et al., 1961). The LSI-A is a summary rating of an individual's perception of his/her life (Appendix K). The scale ranges from 0-20 and responses are dichotomous, where 0 = "Disagree" and 1 = "Agree." Components of life satisfaction include zest, resolution and fortitude, congruence between desired and achieved goals, positive self-concept, and mood tone. According to Diener (1984), life satisfaction is one of the three hallmarks of subjective well-being, along with positive and negative affect. In a previous study with middle-aged and older LGB adults (Spencer, 2004), the LSI-A showed acceptable reliability (Cronbach's $\alpha = 0.83$). Although there were some missing data on individual scale items ($n = 13$), an 80% present criterion was applied to impute individual item mean values for the total scale, resulting in a final sample size of $N = 322$. Reliability analysis for the current study showed that the scale had a high internal consistency (Kuder-Richardson 20 = 0.81).

Design and Procedure

This cross-sectional design used a self-administered survey for online data collection. Researchers have noted that a truly representative LGB sample is virtually impossible to obtain because participants are required to disclose their sexual orientation (Berger & Kelly, 1996; Grossman et al., 2000; 2001). Additional sample bias

may have been introduced given the mode of data collection in that participation required access to a computer and the ability to follow web-based instructions (Dillman & Bowker, 2001). However, research has shown that when compared with samples collected via traditional methods, online samples are just as diverse, are no more psychologically disturbed, and are no less likely to provide accurate information (Gosling, Vazire, Srivastava, & John, 2004). Although limitations are introduced by using this method, online data collection and recruitment for LGB research offers a unique opportunity to obtain information on this otherwise hidden population (Savin-Williams & Ream, 2003; Spencer, 2004). The following section focuses on the online methodology used for the current study.

Online Survey Construction

The domain name “socialsupportsurvey.com” was purchased for use in a previous study (Spencer, 2004) on contract with the domain host Netfirms® and was modified for the current study by web-developer Jason Vickers. The online survey was written in php, a general-purpose scripting language, with a MySQL® open source database on the backend. The survey form was self-contained on one page, which allowed only one post to the database at completion of the survey. Javascript code was used to show each section of the form; as the participant perceived that they were moving through multiple pages of a form, they were actually hiding one section of the form and revealing the next. This interactive, multi-page delivery of questions is the preferred method for longer, more complex surveys (Best & Krueger, 2004; Hash & Spencer, in press). The new survey was redesigned using Dreamweaver® to be Section

508 compliant as mandated by the Americans with Disabilities Act (Waddell & Thomason, 1998) for accommodating any participants with disabilities.

Hash and Spencer (in press) reviewed the literature on the use of web-based surveys for collecting data on sexual minority populations and based on this review, several strategies for survey construction were followed. First, the welcome page was constructed to be motivational and informative, with clear instructions for proceeding through the survey (Dillman & Bowker, 2001). The program was designed with no fields in the form were required, so respondents were not forced to answer every question and could scroll from question to question. Second, a professional web-developer and graphic designer was hired to help reduce error; the color scheme and navigation between parts of the form were user-friendly, with consistent format between items and clear page numbers to indicate progress (Hash & Spencer). For the response format, radio buttons were used instead of drop-down menus because radio buttons are more similar to traditional paper and pencil surveys (Heerwegh & Loosveldt, 2002). Finally, piloting was carried out on different computers to ensure that there were no problems associated with variations in screen configurations or operating systems (Dillman & Bowker; Hash & Spencer).

Php script performed the actual post to the database and informed the administrator via email that a new survey had been submitted. By posting directly to the database, the participant entered his or her own data by completing the survey and kept data cleaning to a minimum (Hash & Spencer, in press). A password-protected administration panel was written in php to allow easy access to the data. A php extract script was then written to pull the data from the MySQL[®] database and export it into a

tab-delimited text file. This file could then be imported into Microsoft Excel[®] for easy, error-free translation into SPSS Version 11[®] statistical software. The data cleaning was completed prior to import into SPSS by using the find and replace function in Microsoft Excel[®].

Data Collection

Individuals who were interested in participating in the study could either log-on to the survey directly or contact the researcher for more information by e-mail, standard mail, or by calling a toll-free number. At that time, the researcher explained the purpose of the study and answered any questions. Participants who agreed to participate were directed to the website. The welcome page advertised the study and instructed the participant to proceed to the next page for more information and/or to take the survey. The next hyperlinked page presented the consent and information form. Within the consent form, participants had the option to select the hyperlinked phrase “see the survey” and be directed to a portable document format (.pdf) file of the survey instrument. Unlike the traditional consent and information form, the participant did not provide his/her name, but clicked on a button to indicate consent as shown in Appendix L. Participants were prompted to take the survey by selecting a “submit consent and begin survey” button. The survey itself was broken into separate pages to be more manageable, with a “continue survey” button at the bottom of each page. All response selections were presented using radio buttons. The survey was piloted with 20 individuals to ensure that the instructions were clear and user friendly before going online.

Another key component to the data collection was an extra credit system for West Virginia University students. The system was designed to allow each user who had completed a form the opportunity to obtain a randomly-generated, seven-digit code consisting of letters and numbers to submit for extra credit. On the “Thank You” page after form submittal, a button was provided to allow participants access to their confirmation code. The code was not linked to their form information, and participants did not receive a code unless they successfully submitted a form. By providing each participant with a unique code, the potential for multiple responses from the same individuals was reduced (Dillman & Bowker, 2001).

After receiving their code, the participant was instructed to write down the code, enter the code in a small form on the page, and click “Submit.” This process required the participant to acknowledge receipt of the code and then provide this information on a signup sheet outside of the researcher’s office. An administration panel similar to the one constructed for the survey was created to handle the code management process. The administration panel and the database containing the codes were completely separate from the survey database and administration panel. A comparison was made between the survey codes submitted to the database and the codes provided on the signup sheet, and participants received extra credit if they provided a valid code. All data were entered, checked for errors, and analyzed using SPSS Version 11[®] statistical software.

Chapter 4. Results

Sample Characteristics

Summaries of demographic characteristics of the sample, stratified by sexual orientation, are presented in Table 1. Seventy percent of the total sample were female and 88% were Non-Hispanic White. Approximately 45% described their area of residence as urban, and the majority lived with relatives or with friends/non-relatives (30% and 40%, respectively). Approximately half (54%) were in a committed relationship. Chi-square tests were used to examine differences in categorical demographic variables by gender and sexual orientation. Groups did not differ on the majority of demographic variables. As shown in Table 1, fewer LG adults reported a formal religious denomination ($\chi^2 (4, N = 307) = 22.44, p < .01$). Consistent with recruitment procedures, a greater proportion of heterosexual adults were currently attending West Virginia University ($\chi^2 (1, N = 305) = 43.08, p < .01$) compared with LG adults.

Families of Origin and Families of Choice

Means and standard deviations are presented in Table 2 describing the social network characteristics of the sample ($N = 332$). As previously described, participants could nominate up to 14 people to place in their social support network and were instructed to indicate that person's closeness and relationship to them. The mean number of people in the social support network was 7.05 ($SD = 4.24$), with each network member placed in one of three possible convoys. The mean number placed in the innermost convoy was 3.44 ($SD = 2.53$), the middle convoy was 2.47 ($SD = 2.22$), and the outermost convoy was 1.07 ($SD = 1.39$). Based on the results from paired samples

t-tests, significantly more individuals were nominated in the innermost convoys and this number decreased significantly with each convoy (Figure 2).

Coding for the relationships of the individuals was broken into the categories of “family of origin,” defined as biological relatives – parents, siblings, cousins, grandparents, aunts/uncles, cousins, etc. – and “family of choice,” defined as all other relationships including intimate partners. Based on the results from paired samples t-tests, the number of family of choice members placed in any of the three convoys was significantly ($t [332] = -6.48, p < .01$) higher ($M = 3.61, SD = 3.03$) than the number of family of origin members ($M = 2.83, SD = 2.56$; data not shown). To examine variations in the structure of the social support network among participants, means were compared by sexual orientation while controlling for age on the number of family of choice, the number of family of origin, and the total number in the social support network. The only difference in the three measures was in the number of family of origin members ($F (1, 306) = 7.78; p = .01$), with heterosexuals ($M = 3.10, SD = 2.61$) reporting more family of origin than LG individuals ($M = 2.14, SD = 2.27$). There were no significant differences by sexual orientation in the family of choice or the total number in the social support network (Table 2).

Preliminary Analyses

Prior to analyses for the specific aims of this study, the data were examined for outliers and missing values and problematic data were considered on a case-by-case basis. Although there were outliers based on age variable, the decision was made to statistically control for age in all subsequent analyses. The data set was explored to ensure that it did not violate assumptions of the proposed statistical tests (i.e., normality,

homogeneity of variance, independence). There was modest deviation from a normal distribution as a function of the age distribution in the sample (skewness = 1.36, kurtosis = 1.02). Means, bivariate descriptive statistics, and bivariate correlations were calculated to describe the sample and assess multicollinearity of predictor variables.

Means and standard deviations on the three measures of psychological well-being for the entire sample by sexual orientation are presented in Table 3. Pearson correlations were calculated to examine the relationship among key variables to help understand the data and guide the statistical analyses (Table 4). Social support as measured by the Social Support Scale was correlated (medium-size; Hemphill, 2003) at the 0.01 level (two-tailed) with personal mastery ($r = 0.44$), depressive symptomatology ($r = -0.44$), self-esteem ($r = 0.46$), and life satisfaction ($r = 0.51$). Personal mastery was also significantly, largely correlated (Hemphill) at the 0.01 level (two-tailed) with depression ($r = -0.59$), self-esteem ($r = 0.66$), and life satisfaction ($r = 0.60$). For the three measures of well being, significant large correlations (Hemphill) in the expected direction were detected between depressive symptomatology and self-esteem ($r = -0.69$; $p = 0.01$), depressive symptomatology and life satisfaction ($r = -0.63$; $p = 0.01$) and between self-esteem and life satisfaction ($r = 0.63$; $p = 0.05$). These results indicate that the appropriate approach was a multivariate analysis of covariance because the outcome measures are moderately correlated and could be examined as a composite dependent variable. Using a MANCOVA with interpretation of the significant univariate results also reduces the risk of inflated Type 1 error.

The relationship between age and key independent variables was examined to determine whether the statistical models should be adjusted. The measure of age was

calculated by taking the difference between year of birth and the year of data collection. As previously noted, year rather than date of birth was used to help preserve anonymity of respondents. Significant age differences emerged for gender ($F(1,329) = 19.18; p < .01$), with men ($M = 22.29, SD = 3.27$) being older than women ($M = 20.91, SD = 2.31$). Heterosexuals ($M = 20.94, SD = 2.58$) were significantly younger than LG respondents ($M = 22.80, SD = 2.95; F(1,305) = 25.28; p < .001$). Age differences were likely the result of the sampling procedures and do not reflect expected, naturally-occurring group differences. In terms of the mean age difference (approximately 2-3 years) and considering the somewhat crude measure of age, the observed differences are likely to be negligible from a developmental perspective. However, to be conservative in the interpretation of results, age was used as a covariate in the between-groups analyses and regression models. Values obtained for the age covariate are presented in all tables.

The specific aims of this study were to examine: 1) differences by gender and sexual orientation in psychological well-being, 2) the role of individual characteristics (gender and sexual orientation) and personal resources (mastery and social support) in explaining psychological well-being, and 3) the influence of heterosexism and personal resources on psychological well-being of LGB individuals. The attitudes and knowledge of heterosexuals regarding LGB issues were also examined and are described in exploratory analyses.

Psychological Well-Being

Hypotheses 1, 2, and 3 under Specific Aim 1 were examined using a 2 (gender) x 2 (sexual orientation) MANCOVA to investigate group differences in well being while

controlling for age. Three dependent variables were used: depressive symptomatology (CES-D), self-esteem (RSES), and life satisfaction (LSI-A). To test for violations of assumptions, normality, linearity, outliers, homogeneity of variance-covariance matrices, and multicollinearity were evaluated. MANCOVA is sensitive to outliers and thus, Mahalanobis distances, evaluated using the critical value of 16.27 for three dependent variables (Tabachnick & Fidell, 2001) was performed and one problematic case was found and removed. After excluding this case, the data met the assumption of multivariate normality (Mahalanobis Distance Value = 15.37). No serious additional violations were noted (Box's $M = 30.42$, $p = .04$), and according to Tabachnick and Fidell, problems posed by violations are reduced in the current analysis because the cell sizes were greater than 30.

The multivariate test of significance for the combined dependent variables using Pillai's criterion was not significant for gender (Pillai's Trace = .01; $F(3, 282) = 0.88$, ns), sexual orientation (Pillai's Trace = .02; $F(3, 282) = 2.09$, ns), or the interaction (Pillai's Trace = .02; $F(3, 282) = 1.72$, ns). Although the multivariate results indicated no group differences in the composite variable of overall well-being (data not shown), the results for the dependent variables were considered separately and are described below.

Depressive Symptomatology

Results of the univariate analysis indicated that there were no significant differences ($F(1, 284) = 1.48$, ns) between men ($M = 17.69$, $SD = 10.42$) and women ($M = 17.81$, $SD = 9.45$) on total score for the CES-D. There was a significant difference ($F(1, 284) = 4.11$, $p = .04$) between LG individuals ($M = 20.42$, $SD = 11.03$) and

heterosexuals ($M = 17.08$, $SD = 9.26$) on depressive symptomatology, but there was not a significant gender x sexual orientation interaction ($F(1, 284) = 2.16$, ns ; Table 5).

Self-Esteem

Results of the univariate analysis indicated that there were no significant differences ($F(1, 284) = 1.02$, ns) between men ($M = 20.72$, $SD = 6.01$) and women ($M = 20.86$, $SD = 5.13$) on self-esteem. There was a significant main effect ($F(1, 284) = 6.18$, $p = .01$) of sexual orientation on self-esteem, with heterosexuals ($M = 21.27$, $SD = 4.94$) reporting significantly higher self-esteem than LG respondents ($M = 19.10$, $SD = 6.66$). There was not a significant gender x sexual orientation interaction ($F(1, 284) = 2.84$, ns ; Table 6).

Life Satisfaction

Results of the univariate analysis indicated that there was a significant gender x sexual orientation interaction ($F(1, 284) = 5.11$, $p = .02$) on life satisfaction. For women, lesbian individuals reported significantly lower life satisfaction ($M = 12.09$, $SD = 3.81$) than heterosexual women ($M = 14.47$, $SD = 3.77$; Table 7). Among men, heterosexuals reported similar life satisfaction ($M = 12.95$, $SD = 4.33$) as gay men ($M = 13.00$, $SD = 4.56$). No significant differences ($F(1, 284) = 0.00$, ns) between men ($M = 12.93$, $SD = 4.40$) and women ($M = 14.04$, $SD = 3.90$) on life satisfaction were detected, nor was there a significant main effect ($F(1, 284) = 2.76$, ns) of sexual orientation (LG $M = 12.35$, $SD = 4.18$; heterosexual $M = 14.07$, $SD = 3.99$).

Personal Resources and Psychological Well-being

Hypotheses 4 and 5 were not concerned with the main effects of gender and sexual orientation on psychological well-being, but focused instead on the interface

between these variables and the personal resources of mastery and social support.

The hypotheses under Specific Aim 2 were tested by interpreting the significance of each regressor in a series of hierarchical linear regression analyses using the total score on the CES-D, the RSES, and the total score of the LSI-A as outcomes.

Hierarchical regression analyses were conducted to determine the contributions of personal resources (i.e., mastery and social support as measured by the Social Support Scale) to psychological well-being while controlling for background variables (gender, sexual orientation, and age). For each equation, two blocks of variables were entered, a total of five regressors per model. Examination of the histograms and scatterplots suggested only minor deviations from normality, heteroscedasticity, and homogeneity of variance.

The order of entry for the hierarchical regressions was as follows. First, the background variables of gender, sexual orientation, and age were entered into the model. At the second step, mastery and social support were entered simultaneously to determine how a person's sense of mastery over his or her life and informal support might be associated with well being. This order of entry allowed for background variables to account for their own unique variance and the shared variance, thus testing whether personal resources explained additional variance in the outcome measures. Analyses were conducted separately for each construct of psychological well-being and are presented below, beginning with the total score on the CES-D.

Depressive Symptomatology

The first hierarchical regression analysis was conducted to determine the contributions of personal mastery and social support to depressive symptomatology

while controlling for gender, age, and sexual orientation (entered simultaneously in Step 1). Results indicated that the variables entered at Step 2 of the model, personal mastery and social support, were significant predictors of depressive symptomatology, with the full model accounting for 39.9% of the variance (Table 8). Sexual orientation emerged as a significant predictor of depressive symptomatology in only Step 1 of the model ($\beta = 0.12$, $p = .05$), with LG identity positively associated with increased depressive symptomatology. At the second step, social support ($\beta = -0.24$, $p < .01$) and personal mastery emerged as significant predictors ($\beta = -0.48$, $p < .01$). Based on the standardized regression weights, there was an inverse relationship between the predictors and the outcome; higher social support and mastery were associated with lower scores on the CES-D. The addition of social support and mastery uniquely contributed to the variance explained ($R^2\Delta = 0.38$, $p < .01$) in depressive symptomatology. Moreover, when social support and mastery were entered in the equation, sexual orientation no longer uniquely contributed to the variance in depressive symptoms.

Self-Esteem

A parallel hierarchical regression analysis was conducted to determine the contributions of mastery and social support to self-esteem while controlling for the individual characteristics of gender, age, and sexual orientation. Results indicated that both steps of the model were significant, with the full model accounting for 49.1% of the variance (Table 9). Once again, sexual orientation emerged as significant in Step 1 of the model ($\beta = -0.20$, $p < .01$), but in contrast to the model predicting depressive symptomatology, it remained significant at the second step ($\beta = -0.11$, $p = .02$). Across

both steps of the model, LG identity was associated with lower self-esteem. Social support ($\beta = 0.24, p < .01$) and mastery ($\beta = 0.55, p < .01$) were unique predictors of self-esteem and were positively related to this measure of psychological well-being. Although the individual characteristics in Step 1 contributed to the variance explained ($R^2\Delta = 0.04, p = .01$), the addition of personal resources in Step 2 resulted in a significant increase ($R^2\Delta = 0.46, p < .01$).

Life Satisfaction

A third hierarchical regression analysis was conducted to determine the contributions of mastery and social support to the final measure of well being, life satisfaction, while controlling for gender, age, and sexual orientation. The full model accounted for 43.5% of the variance in life satisfaction (Table 10). Results indicated that sexual orientation was a significant predictor of life satisfaction at the first ($\beta = -0.12, p = .05$) step of the model, with the direction of the standardized regression weights indicating that LG identity was associated with lower life satisfaction. Social support ($\beta = 0.27, p < .01$) and mastery ($\beta = 0.47, p < .01$) were uniquely predictive of life satisfaction in Step 2 with a positive association between these variables. The addition of individual characteristics in Step 1 ($R^2\Delta = 0.05, p < .01$) and personal resources in Step 2 ($R^2\Delta = 0.39, p < .01$) uniquely contributed to the variance explained in the model. Moreover, when social support and mastery were included in the equation, sexual orientation no longer uniquely contributed to the variance explained in life satisfaction.

Internalized Homophobia and LGB Individuals

A within-group examination of the influence of heterosexism, measured by internalized homophobia, and personal resources was conducted to address the third specific aim. The hypothesis under Specific Aim 3 was tested by interpreting the significance of each regressor in a series of hierarchical linear regression analyses using the total score on the CES-D, the RSES, and the total score of the LSI-A as outcomes. Participants were instructed to complete the Internalized Homophobia Scale only if they self-identified as lesbian, gay, or bisexual; these data from the complete sample (bisexual included) were used in this series of analyses ($N = 69$). This sample size provided sufficient power to reject the null hypothesis. Hierarchical regression analyses were conducted to determine the contributions of internalized homophobia and personal resources (i.e., mastery and social support as measured by the Social Support Scale) to psychological well-being. Preliminary analyses showed that men ($M = 17.97$, $SD = 8.80$) and women ($M = 16.34$, $SD = 7.83$) did not significantly differ on internalized homophobia ($F(1, 75) = 0.74$; *ns*), and that age was not significantly correlated with internalized homophobia ($r = -.14$, *ns*). To preserve statistical power and to assist in interpretability of the models, background variables of age and gender were not included in the models.

Each equation had two blocks and a total of three regressors per model. In Step 1, internalized homophobia was entered and in the second step, mastery and social support were entered simultaneously to determine how a person's sense of control over his or her life and informal support might be associated with well being above and beyond the influence of internalized homophobia. This order of entry allowed for internalized homophobia to account for its own unique variance and the shared

variance, thus testing whether mastery and social support explained additional variance in the outcome measures. Analyses were conducted separately for each construct of psychological well-being and are presented below, beginning with the total score on the CES-D.

Depressive Symptomatology

The first hierarchical regression analysis was conducted to determine the contributions of internalized homophobia and personal resources to depressive symptomatology among LGB adults. Results indicated internalized homophobia was predictive of the outcome the variables in Step 1 of the model ($\beta = 0.38, p < .01$), with a positive association between internalized homophobia and depressive symptomatology, but was no longer predictive when the other variables were added in Step 2. Mastery ($\beta = -0.43, p < .01$) and social support, ($\beta = -0.22, p = .03$) were unique predictors of depressive symptomatology. Based on the standardized regression weights, there was an inverse relationship between the predictors and the outcome such that higher mastery and social support were associated with lower scores on the CES-D. A total of 40.9% of the variance was accounted for in the model, and the addition of personal resources uniquely contributed to the variance explained ($R^2\Delta = 0.27, p < .01$).

Self-Esteem

A parallel hierarchical regression analysis was conducted to determine the contributions of internalized homophobia and personal resources to self-esteem among LGB adults. Results indicated that both steps of the model were significant, with the full model accounting for 46.8% of the variance (Table 12). Internalized homophobia was predictive in both Step 1 ($\beta = -0.44, p < .01$) and Step 2 of the model ($\beta = -0.19, p = .04$)

in the expected direction, with an association between high internalized homophobia and low self-esteem. In Step 2, mastery and social support contributed to the variance explained ($R^2\Delta = 0.30, p < .01$). Only mastery emerged as a significant predictor of self-esteem ($\beta = 0.51, p < .01$); higher personal mastery was associated with higher self-esteem among LGB adults.

Life Satisfaction

A third hierarchical regression analysis was conducted to determine the contributions of internalized homophobia and personal resources to life satisfaction among LGB adults. Results of the hierarchical regression conducted on life satisfaction indicated that the full model accounted for 55.6% of the variance (Table 13).

Internalized homophobia was predictive of the outcome the variables in Step 1 ($\beta = -0.33, p = .01$) in the expected direction, with an association between high internalized homophobia and low self-esteem. In Step 2, internalized homophobia was no longer a unique predictor, but mastery ($\beta = 0.61, p < .01$) and social support ($\beta = 0.19, p = .05$) emerged as unique predictors of life satisfaction; higher scores were associated with higher life satisfaction among LGB adults. The addition of personal resources contributed to the variance explained in self-esteem ($R^2\Delta = 0.45, p < .01$).

Exploratory Analyses

Heterosexuals' Attitudes and Knowledge of Sexual Orientation

Participants were instructed to complete the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals if they self-identified as heterosexual. Data were available for $N = 263$ respondents, with a maximum of three missing cases on certain subscales. In order to provide within-group information on heterosexism,

scores were examined using paired-samples t-tests on the five subscales, which are intended to be comparable. The means and standard deviations on the subscales were as follows: Civil Rights ($M = 4.46$, $SD = 1.39$), Religious Conflict ($M = 2.97$, $SD = 1.01$), Internalized Affirmativeness ($M = 2.82$, $SD = 1.39$), Knowledge ($M = 2.30$, $SD = 1.12$), and Hate ($M = 1.62$, $SD = 0.84$). Results from the paired samples t-tests (data not shown) indicated that all pair-wise comparisons differed significantly, with the exception of Religious Conflict and Internalized Affirmativeness ($t [262] = 1.20$, $p = .23$). From the highest to the lowest-scored subscales, heterosexuals scored highest on civil rights, followed by religious conflict and internalized affirmativeness, followed by knowledge, and scored lowest on hate (Figure 3).

Chapter 5. Discussion

Results Overview

The first specific aim of the current study was to determine whether differences existed by gender and sexual orientation on three separate measures of psychological well-being. Hypothesis 1, which stated that gender differences would be observed across measures of well being, was not supported. Hypothesis 2 stated that well being would not differ by sexual orientation, and this was also not supported; heterosexuals reported significantly lower depression and higher self-esteem compared with LG individuals. Hypothesis 3, which predicted a significant gender x sexual interaction, was supported but not in the expected direction. Lesbian women were hypothesized to report the highest well being of the four groups, but the data showed that this group actually reported the lowest life satisfaction. For Specific Aim 2, Hypotheses 4 and 5 stated that the personal resources of social support and mastery, respectively, would be associated with higher psychological well-being. Both hypotheses were supported across all outcome measures. Finally, the goal of Specific Aim 3 was to examine the influence of heterosexism and personal resources on psychological well-being among sexual minority persons. Results indicated that Hypothesis 6 was supported to varying degrees across outcomes; personal resources explained a significant amount of variance in well being beyond the negative influence of internalized homophobia.

Maintenance of Well Being as a Developmental Process

Overall, the results related to Specific Aim 1 suggest that psychological distress was elevated for the entire sample and that LG individuals experience higher levels of depressive symptomatology and lower self-esteem than heterosexuals in emerging

adulthood. The mean score on depressive symptomatology was exceptionally high for both LG ($M = 20.42$) and heterosexual (17.08) persons, exceeding the recommended clinical cut-off of 16 for depressive symptoms (Radloff, 1977). Differences were also detected for self-esteem, with heterosexuals reporting significantly higher mean self-esteem than LG individuals (21.27 versus 19.10, respectively). Hershberger and D'Augelli (1995) reported a mean self-esteem score of 22.08 among 165 LG participants, and in a sample of 197 LG young adults (M age = 19.9 years) self-esteem ranged from 24.74-26.03 across two points of measurement (Vincke & Heeringen, 2002). The observed self-esteem of LG respondents in the current study is consistent, if not higher, than previous studies using this scale with younger sexual minority samples. To date, no studies of sexual orientation have used life satisfaction as an index of well being, so direct comparisons cannot be made. However, the mean score for lesbian women (12.09) was only marginally above the recommended cut-off of 11 for life satisfaction (Neugarten et al., 1961).

The finding that LG orientation is associated with poor well-being is consistent with Meyer's (1995) minority stress hypothesis. Being part of a sexual minority group has been found to increase psychological stress, lower self-esteem, and contribute to increased depressive symptomatology (Zea, Reisen, & Poppen, 1999). Previous studies have shown that younger sexual minority persons are at a heightened risk for poor mental health compared to heterosexuals (Herek et al., 1997; Meyer, 2001; Rosario et al., 2001, 2002). Without considering the results from subsequent analyses, these findings contradict the notion that psychological strength and resilience against negative outcomes are prevalent among LG individuals. However, the results related to

Specific Aim 1 are perhaps best understood from a developmental perspective.

The majority of studies on LG identity development either focus on retrospective accounts of middle-aged samples or on surveys of adolescents. Little is known about the influence of sexual orientation on human development in emerging adulthood. In the book *Lesbian, gay, and bisexual identities over the lifespan: Psychological perspectives* by D'Augelli and Patterson (1995), the chronologically-ordered chapters move from adolescence directly into midlife. The same is true in Bohan's (1996) chapter *Lifespan development and lesbian/gay/bisexual identity*. Emerging adulthood is a time of change and a period of psychological maturity (Arnett, 2000), yet there is a void in the literature on the developmental experience of sexual minority persons. It is possible that for LG individuals in emerging adulthood, the instability which characterizes this stage of life is compounded by the developmental challenges posed by sexual minority status.

In a recent study of depression and self-esteem in emerging adulthood, Galambos, Barker, and Krahan (2006) found that across a seven-year period ($N=920$), depressive symptoms decreased and self-esteem increased. Initial disadvantages had less of an influence over time, and additional factors (e.g., marriage) improved psychological well-being. The results of the study by Galambos and colleagues imply that as a person moves through the tumultuous years of emerging adulthood, psychological well-being will improve as a function of normal development. However, it is a heterosexist society which provides the learning context within which sexual minority persons develop, and negative societal attitudes are a risk factor for poor psychological outcomes. It is possible that development is qualitatively different for LG

individuals who feel unable to safely explore their identity, build social support networks, and create a strong sense of self during adolescence.

Cross-sectional studies of emerging adulthood fail to accurately capture a profile of psychological well-being among LG individuals. Psychological maturity and resource-building is likely to take place at different rates for this group, since many of the tasks of development which are typically completed during adolescence are delayed for LG persons. During emerging adulthood, oftentimes in a college or university setting, LG persons actively seek information to better understand their lives (D'Augelli, 1992). With the passage of time, LG individuals will experience a developmental progression similar to that of heterosexuals (Anderson, 1998). LG persons face both internal and external stressors related to their identity, making it critical for researchers to understand the personal resources used to maintain a positive sense of self within the context of heterosexism (Rotheram-Borus & Fernandez, 1995). Future research should focus on collecting longitudinal data across emerging adulthood to better understand developmental differences and coping strategies as a function of sexual orientation.

The Role of Personal Resources

Results of the hierarchical regressions under Specific Aim 2 indicate that for the entire sample, personal resources were associated with more positive psychological well-being. This supports research which has demonstrated that individuals maintain emotional well-being through the use of both internal resources, such as mastery, and through the external resource of social support (Bovier, Chamot, & Perneger, 2004; Otis & Skinner, 1996). Across sexual orientation, well being is influenced by the existence

and quality of social support, especially during times of crisis (Otis & Skinner). As explained by Hobfoll and colleagues (1990), “people will strive to maintain social support both to meet their needs to preserve particular resources and in order to protect and maintain their identity” (p. 467). Perceived control has also been linked in previous research to well being, both directly and by mediating the relationship between social support and depression (Bullers, 2000). Although it is clear that individuals can create and structure their social environments to meet their needs, researchers differ in how they conceptualize the role of internal and external resources in maintaining well being.

Different approaches have been used in the literature to help understand the relationship between social support, mastery, self esteem, and depression. Bovier and colleagues (2004) present three possible pathways based on their review of the literature to help explain the relationship between personal resources and psychological well-being. The first proposes a direct pathway between social resources and well being; the second suggests an indirect pathway by which social support promotes a person’s internal resources, and the third proposes that social support acts as a buffer against negative well-being. Results of their study ($N = 1257$, M age = 26) indicated that internal resources (mastery and self-esteem) and social support were positively associated with well being. These resources acted as both a buffer against the effects of stress on well being and as a mediator between social support and well being. Having adequate personal resources, such as mastery and self-esteem, is necessary for the maintenance of positive emotional states. Moreover, social support can help maximize the influence of these resources (Bovier et al.).

One of the strengths of the current study was that both internal and external resources were included in the model, although limitations of the data prevent an analysis of causality. Two different perspectives attempt to explain the relationship between social support and mastery (reviewed in Bullers, 2000). The first perspective is that mastery affects social support, whereby those individuals with a high sense of control over their lives have the motivation to develop adequate social support (Hobfoll et al., 1990). The second perspective is that people with a great deal of social support feel a high sense of control over their lives. Both factors have been examined in psychological models, oftentimes in an attempt to understand the role of mastery as a moderator between social support and well being. Among undergraduates, such an interaction has been found for satisfaction with support and well being (i.e., mastery moderates the relationship between satisfaction with support and well being; Felsten, 1991; Felsten & Wilcox, 1992). It is unclear which perspective is most relevant in the current sample, but both mastery and social support served as effective resources in the unique prediction of well being.

Another problematic variable in research focusing on the relationship between internal and social resources is self-esteem. In the current study, self-esteem was treated as an outcome measure, which is consistent with previous work on the effects of heterosexism (Waldo et al., 1998). However, evidence suggests that self-esteem, social support, and depressive symptomatology are conceptually overlapping constructs (Otis & Skinner, 1996; Vincke & Bolton, 1994). An alternate way to examine self-esteem is as a personal resource – a variable of process rather than product. Grossman and Kerner (1998a) examined self-esteem and social support as predictors

of emotional distress among 90 LG youth aged 14-21 years. Using multiple regression with simultaneous entry, they found self-esteem moderately predicted emotional distress, but satisfaction with social support did not. In a longitudinal study of undergraduate heterosexual women, Harlow and Cantor (1995) found that the function of emotional support was connected with the construct of self-esteem, while informational support was more useful in helping a person in times of crisis. Future research could examine the separate types of social support to see which are most critical to understanding the relationship between personal resources and psychological well-being.

For Specific Aim 2, the primary goal was to examine whether personal resources explained variations in psychological well-being across sexual orientation. However, for every outcome, sexual orientation was the only individual difference variable to emerge as a unique predictor of well being in the expected direction; with each model, LG orientation was associated with lower well being. This necessitates consideration of the role of personal resources on well being among sexual minority individuals. Among LG persons, social supports can have either a direct or buffering effect on well being (Ross, 1996). However, for sexual minority persons, the availability of social support in times of crisis is not guaranteed due to the pervasive influence of societal heterosexism. Moreover, feelings of victimization might lead to a reduced sense of personal control. This suggests that the well being of sexual minority persons cannot be examined independent of the context of heterosexism. Cultural and psychological heterosexism can negatively influence an LGB person's everyday experience across multiple environments. Workplace heterosexism, for example, has been associated with

psychological and physical distress (Smith & Ingram, 2004; Waldo, 1999). In their study of 2844 heterosexuals and 73 LGB adults, Mays and Cochran (2001) found that LGB adults were more likely than heterosexuals to experience discrimination in several domains, including discrete life events and day-to-day experiences. The differences found by sexual orientation were therefore examined in further detail in the within-group analyses associated with Specific Aim 3.

Internalized Homophobia and Heterosexism

Although internalized homophobia was associated with poor psychological well-being in the current LGB sample, personal resources explained a greater amount of the variance than homophobia for each of the models. LGB individuals appear to be drawing on internal (mastery) and external resources (social support) as a way to protect against the negative influence of internalized homophobia. The positive influence of these related factors is consistent with previous research on well being (Otis & Skinner, 1996). More importantly, moving beyond comparison studies to examine the resources of sexual minority persons contributes to the “untold story” of strengths within this group (Anderson, 1998, p. 55).

In a review of the literature on gay young adults, Sullivan and Wodarski (2002) noted that social isolation and internalized homophobia can result in negative self-esteem. In addition to isolation, discrimination based on sexual orientation can lead to alienation, “a feeling of inauthenticity and low self-esteem” (Grossman & Kerner, 1998a, p. 26). Although the relationship between internalized homophobia and poor psychological well-being is clear (Otis & Skinner, 1996), the role of protective factors is less understood. The current study contributes to the literature by showing that the

effects of sexual orientation on well being are reduced or eliminated with the addition of personal resources and thus, these factors may buffer against the negative effects of heterosexism among sexual minority persons.

The results of this study are consistent with previous research on the factors which can protect sexual minorities against negative outcomes, including perceived support, self-concept, and a locus of control. Anderson (1998) found that personal resources (e.g., social support) were protective, assisted in identity maintenance, and indicated the presence of resilience. Social supports can have either a direct or buffering effect on well being for LGB persons (Ross, 1996), and high social support is typically related to psychological adjustment (Kurdek, 1988). LGB individuals actively structure their environments to help maximize internal and external resources, which work in tandem to help manage stress. Personal mastery has also been associated with self-esteem (Anderson), and self-acceptance and social support can actually mediate the relationship between victimization and psychological well-being (Hershberger & D'Augelli, 1995). However, heterosexism and resulting internalized homophobia are two factors unique to sexual minority persons. Although social support and self-esteem reduce the risk for psychological distress across sexual orientation, internalized homophobia and perceived minority stress can counter the effectiveness of these resources (Meyer, 1995; Otis & Skinner, 1996).

One area which warrants further examination is the potential negative influence of social support on well being. Rosario et al. (2004) found that increased social support and more positive attitudes about one's sexual orientation were associated with decreased emotional distress among LGB persons. However, social support is only

protective if one's social network is supportive. Attitudes held by members of the social support network can be influenced by cultural and psychological heterosexism and thus, sexual minority persons can often be further distressed by turning to unsupportive members of their social network. Smith and Ingram (2004) found that unsupportive social relations were related to depression and psychological distress above and beyond the stress of heterosexism ($N = 97$ LGB individuals). While these negative interactions are more likely to be with family members (Rook, 1994), emerging adulthood is a time when the individuals is only just beginning to build a family of choice. Grossman and colleagues (2000) have found that as an LGB person ages, he or she is unlikely to incorporate individuals in their social networks who are unsupportive. During emerging adulthood, then, these individuals might be actively rejecting the network members with whom they experience negative interactions. Evidence suggests that LGB adults have unique social lives, having to maintain relationships in the face of stigma and marginalization by a heterosexist society (Reid, 1995). Again, longitudinal research is required to understand the nature and process by which LGB persons can actively combat heterosexism.

Limitations

The limitations of the current study related to sampling reflect the problems inherent to all studies of the LGB population. Researchers have noted that a truly representative sample is virtually impossible to obtain (Berger & Kelly, 1996; Grossman & Kerner, 1998b). The current sample was not representative; there is also no clear-cut definition of sexual orientation, and all participants in this study were required to disclose their sexual orientation (Bohan, 1996a). In addition, the LGB participants were

recruited from organizations and support groups, indicating that these individuals were already integrated to some extent in the LGB community. The small number of bisexual respondents prevented comparative analyses and therefore, it is unclear whether bisexual individuals might have a different experience with heterosexism than LG persons. This sample lacked ethnic and regional diversity, which likely influenced results. For example, in a sample comprised of 72% ethnic minority participants, Grossman and Kerner found that self-esteem was almost 10 points lower ($M = 9.31$) than what has been reported in other, primarily White samples. The lack of ethnic diversity was reflective of the demographic profile for the recruitment area, but future research should strive to obtain a more diverse sample. Finally, the participants who responded to the survey represent a select group with the ability to access a computer and follow web-based instructions (Dillman & Bowker, 2001).

Additional limitations to the study relate to design and measurement. This study used a cross-sectional design, and all variables were measured using a self-administered online survey format. The cross-sectional nature of the study prevents any process-level analyses to better understand how LGB individuals are coping with heterosexism. Survey research is beneficial because it is less expensive than behavioral observation, can tap into items that are not observable, and can help ensure participant confidentiality (Dillman, 2001). However, self-report measures have the methodological problem of social desirability and, because participants completed surveys at their leisure, there was less experimental control than if the investigator had administered the survey in a face-to-face interview. Quantitative self-report research has the additional potential problem of scales, where the most honest answer might not

be listed as a choice. Self-report has methodological limitations, but it is probably the most practical format for research related to sexual orientation. Future research could use a mixed-mode design, collecting both qualitative and quantitative data, as an approach to gather the most meaningful data on development among sexual minorities.

Applications and Future Directions

LGB issues can help inform the study of “mainstream psychology” by contributing to the literature on minority populations within a paradigm of minority stress (Goldfried, 2001). The exploratory analysis of the LGB-KASH yielded interesting results on heterosexuals’ attitudes about and knowledge on LGB issues. The order in which the subscales were ranked (from highest to lowest) – Civil rights, Religious Conflict / Internalized Affirmativeness, Knowledge, and Hate – exactly parallels the results of four separate studies reported by Worthington et al. (2005). Heterosexuals were likely to endorse statements related to civil rights for sexual minority persons and were unlikely to endorse statements related to hatred. However, results also demonstrate that heterosexuals’ knowledge base of LGB issues was low and was only one “step” above hate in the ranking of LGB-KASH subscales. Although more sophisticated analyses of these data are beyond the scope of the current study, results indicate that heterosexism is a multidimensional construct. A direct application of these results would be a concerted effort to educate heterosexuals about LGB issues as a way to reduce heterosexism.

The results of the current study help to identify multiple areas for intervention. The first is an attempt to help sexual minority persons build resources to buffer against the negative effects of heterosexism. In order to intervene and improve an individual’s

social support network, two things are required: the social support system must be able to change, and the artificial support network must be qualitatively similar to the support received from naturally-occurring systems (Hobfoll et al., 1990). In the case of LGB persons in a university setting, one solution would be the formation of officially-sanctioned LGB student groups to promote social engagement among sexual minority individuals. Identification with a social group can protect a person against depression and low self-esteem, a phenomenon known as collective self-esteem (Zea et al., 1999, p. 373). The formation of social groups represent one way to improve the psychological well-being of LGB individuals by influencing personal resources, but a more effective approach would be to reduce the source of sexual minority stress – heterosexist attitudes.

The second, more comprehensive point of intervention to reduce the effects of heterosexism is through system-level change. Slater (1993) makes some policy recommendations specific to the university setting as a means to reduce heterosexism and create a safe and supportive environment for sexual minority students. These include having sexual orientation in policy statements, forming active and visible committees to monitor campus climate, organizing workshops and meetings to educate on LGB issues, and providing a safe and efficient way to handle complaints. Also in the college setting, health service professionals can assume leadership positions by addressing unique health issues of sexual minority persons using a non-heterosexist approach (McKee, Hayes, & Axiotosis, 1994). All of these are ways to explicitly acknowledge LGB persons at the systems-level and reduce heterosexist attitudes.

Teaching about sexual orientation can be a highly-effective way to reduce heterosexism. This can be accomplished by either creating courses which focus on sexual minority individuals or by incorporating LGB issues into general course curriculum. At the Pennsylvania State University, for example, Anthony D'Augelli has developed a course on LG development across the life span. This course focuses on the strengths necessary for LGB persons to negotiate development in a hostile context (D'Augelli, 1992). His course provides the opportunity for LGB individuals to learn about their own lives and a place where he can "inform young lesbians and gay men about barriers to their development, to help them appreciate their exceptionality, and to encourage them to plan their own development in an active, assertive manner" (p. 225). Although the success of his experience should not be diminished, one criticism of specialized courses is that the people most in need of education on sexual minority issues (i.e., heterosexuals) would be less likely to take a course with an exclusive focus on this topic.

An alternate approach is to challenge heterosexism by incorporating LGB issues into general course curriculum. In a review of 24 psychology textbooks published between 1991 and 1995, Simoni (1996) found that the overwhelming majority provided minimal information on LGB issues. The author suggests that in order to incorporate LGB issues into the classroom, an instructor must first come to terms with his or her own homophobia and heterosexist attitudes. Strategies for incorporating appropriate material about sexual minority issues include providing supplemental materials and activities, covering topics of identity formation and same-sex relationships without the connotation of deviance, and by using non-heterosexist language and examples in class

lectures (Simoni). Increasing general knowledge of LGB issues is one way to facilitate positive change and move toward a truly inclusive psychology.

Promoting education about diversity and having policies in place to protect sexual minority individuals are two critical and overlapping goals of practitioners. Reducing heterosexism is especially important in settings where such anti-LGB prejudice can affect personal work effectiveness and life satisfaction (Smith & Ingram, 2004). Counselors and clinicians can also make use of non-heterosexist strategies as a way to better serve diverse clients. By working to understand the societal context within which their clients live, direct service providers can work to maximize coping strategies and promote psychological health (Meyer, 1995).

Researchers also have an active role in reducing heterosexism. A benefit of the current study was that it moved beyond group differences in an attempt to focus on the strengths of LGB persons from within the context of a discriminatory society. Future research should examine the origin of negative attitudes and work to disentangle/enable the coping mechanisms of LGB persons. More work should also focus on evaluating the effectiveness of different interventions to reduced heterosexism. To conclude, the field of LGB psychology will be improved by a greater understanding of development across all individuals and by developing a clearer, more accurate picture of the diverse period known as emerging adulthood.

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Table 1

Demographic Characteristics of Participants by Sexual Orientation (N = 307)

	Heterosexual (<i>M</i> age = 20.94)		Gay or Lesbian (<i>M</i> age = 22.80)	
	%	<i>n</i>	%	<i>n</i>
Female	74.58	179	51.52	34
Racial/Ethnic Group				
Non-Hispanic White	89.21	215	83.33	55
Other	10.79	26	16.66	11
Living Arrangement				
Alone	8.71	21	12.12	8
With a Domestic Partner	10.79	26	18.18	12
With Non-Relatives	39.42	95	43.94	29
With Relatives/Other	41.08	99	25.76	17
Rural	56.25	135	48.48	32
Relationship Status				
In a Committed Relationship	56.43	136	50.00	33
Other	43.57	105	50.00	33
Religion*				
Protestant	25.83	62	18.18	12
Catholic	31.12	75	16.67	11
Jewish or Other	26.97	65	22.73	15
None	16.18	39	42.42	28
Primary Role				
College/University Student	88.80	214	74.24	49
Employed or Other	11.20	27	25.76	17
Attending West Virginia University*	83.77	201	43.08	28
Difficulty Paying Bills				
A Great Deal or Some Difficulty	26.97	65	67.19	43
A Little or No Difficulty	73.03	176	32.81	21

* $p < .01$.

Table 2

Characteristics of the Social Support Networks of Study Participants (N = 307)

	Heterosexual (<i>n</i> = 241)	Gay or Lesbian (<i>n</i> = 66)
	Mean (<i>SD</i>)	Mean (<i>SD</i>)
Network Structure		
Total Network	7.23 (4.21)	6.76 (4.53)
Number Family of Origin	3.10 (2.61)*	2.14 (2.27)*
Number Family of Choice	4.07 (2.98)	4.53 (3.41)
Structure by Convoy		
Number Circle 1	3.67 (2.56)	2.92 (2.51)
Number Circle 2	2.48 (2.26)	2.41 (2.17)
Number Circle 3	1.02 (1.31)	1.33 (1.71)
Network Function		
Total Score on the MOS-SSS ^a	80.01 (13.71)	75.12 (14.48)
Emotional Support ^b	4.09 (0.80)	3.89 (0.82)
Tangible Support ^b	4.19 (0.91)	3.88 (0.99)
Affective Support ^b	4.40 (0.90)	4.04 (0.96)
Positive Support ^b	4.38 (0.72)	4.14 (0.88)

Note. ^a Medical Outcomes Survey Social Support Scale (MOS-SSS); ^b Subscale of the MOS-SSS.

**p* < .01.

Table 3

Sample Characteristics on Measures of Personal Mastery and Well-Being (N = 313)

Variable (Possible Scale Range)	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Personal Mastery (7-28)	21.92	3.86	10.00	28.00
Psychological Well-Being				
Depressive Symptomatology (0-60)	17.78	9.66	0.00	49.00
Self-Esteem (0-30)	20.79	5.36	1.00	30.00
Life Satisfaction (0-20)	13.63	4.07	1.00	20.00

Note. For all scales, higher scores indicate higher scores on the variable.

Table 4

Intercorrelations (Pearson's r) among Personal Resources and Outcome Variables

Variable	1	2	3	4	5	6
Total Sample ($N = 329$)						
1. Personal Mastery	—	-.59**	.66**	.60**	.44**	.17**
2. Depressive Symptomatology		—	-.69**	-.63**	-.44**	-.11*
3. Self-Esteem			—	.63**	.46**	.10
4. Life Satisfaction				—	.51**	.16*
5. Social Support					—	.12*
6. Social Network Size ^a						—

Note. ^a Based on the total number of network members listed for the Convoy Model.

* $p < .05$; ** $p < .01$.

Table 5

Univariate Test of Between-Subjects Effects for Depression (N = 288)

Source	<i>df</i>	<i>F</i>	Partial η^2	<i>P</i>
Age	1	0.04	0.00	0.85
Gender (G)	1	1.47	0.01	0.23
Sexual Orientation (O)	1	4.11*	0.01	0.04
G*O	1	2.16	0.01	0.14
Error	284	(93.37)		

Note. Values enclosed in parentheses represent mean square errors.

* $p < .05$. ** $p < .01$.

Table 6

Univariate Test of Between-Subjects for Self-Esteem (N = 288)

Source	<i>df</i>	<i>F</i>	Partial η^2	<i>P</i>
Age	1	0.16	0.00	0.69
Gender (G)	1	1.02	0.00	0.31
Sexual Orientation (O)	1	6.18**	0.02	0.01
G*O	1	2.84	0.01	0.09
Error	294	(28.45)		

Note. Values enclosed in parentheses represent mean square errors.

* $p < .05$. ** $p < .01$.

Table 7

Univariate Test of Between-Subjects for Life Satisfaction (N = 288)

Source	<i>df</i>	<i>F</i>	Partial η^2	<i>P</i>
Age	1	3.44	0.01	0.07
Gender (G)	1	0.00	0.00	0.97
Sexual Orientation (O)	1	2.76	0.01	0.10
G*O	1	5.11*	0.02	0.02
Error	284	(1.87)		

Note. Values enclosed in parentheses represent mean square errors.

* $p < .05$. ** $p < .01$.

Table 8

Summary of Hierarchical Regression Analyses for Depression (N= 302)

Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Age	0.10	0.22	0.03
Gender	1.08	1.26	0.05
Sexual Orientation	2.80	1.42	0.12*
Step 2			
Age	-0.03	0.17	-0.01
Gender	1.68	1.01	0.08
Sexual Orientation	0.77	1.12	0.03
Social Support	-0.17	0.04	-0.24**
Personal Mastery	-1.21	0.13	-0.48**

Note. Step 1: $F(3, 299) = 1.67, p = 0.17; R^2 = 0.02$;
 Full Model: $F(5, 297) = 39.37, p < 0.01; R^2 = 0.40$;
 Change Statistics: $F(2, 297) = 94.37, p < 0.01; R^2\Delta = 0.38$.
 * $p < .05$, ** $p < .01$.

Table 9

Summary of Hierarchical Regression Analyses for Self-Esteem (N= 303)

Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Age	0.09	0.12	0.04
Gender	-0.52	0.70	-0.04
Sexual Orientation	-2.64	0.79	-0.20**
Step 2			
Age	0.17	0.09	0.08
Gender	-0.83	0.52	-0.07
Sexual Orientation	-1.39	0.58	-0.11*
Social Support	0.09	0.02	0.24**
Personal Mastery	0.77	0.07	0.55**

Note. Step 1: $F(3, 300) = 3.78, p = 0.01; R^2 = 0.04$;
 Full Model: $F(5, 298) = 57.57, p < 0.01; R^2 = 0.49$;
 Change Statistics: $F(2, 298) = 133.24, p < 0.01; R^2\Delta = 0.46$.
 * $p < .05$, ** $p < .01$.

Table 10

Summary of Hierarchical Regression Analyses for Life Satisfaction (N= 292)

Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Age	-0.16	0.09	-0.11
Gender	0.61	0.54	0.07
Sexual Orientation	-1.16	0.60	-0.12*
Step 2			
Age	-0.09	0.07	-0.06
Gender	0.33	0.42	0.04
Sexual Orientation	-0.24	0.47	-0.02
Social Support	0.08	0.02	0.27**
Personal Mastery	0.49	0.05	0.47**

Note. Step 1: $F(3, 289) = 4.53, p < 0.01; R^2 = 0.05$;
 Full Model: $F(5, 287) = 44.25, p < 0.01; R^2 = 0.44$;
 Change Statistics: $F(2, 287) = 99.23, p < 0.01; R^2\Delta = 0.39$.
 * $p < .05$, ** $p < .01$.

Table 11

Summary of Regression Analyses for Depression among LGB Adults (N= 74)

Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Internalized Homophobia	0.46	0.13	0.38**
Step 2			
Internalized Homophobia	0.17	-0.12	0.14
Personal Mastery	-1.11	0.27	-0.43**
Social Support	-0.15	0.07	-0.22*

Note. Step 1: $F(1, 73) = 12.13, p < 0.01; R^2 = 0.14$;

Full Model: $F(3, 71) = 5.38, p < 0.01; R^2 = 0.41$;

Change Statistics: $F(2, 71) = 16.01, p < 0.01; R^2\Delta = 0.27$.

* $p < .05$, ** $p < .01$.

Table 12

Summary of Regression Analyses for Self-Esteem among LGB Adults (N= 74)

Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Internalized Homophobia	-0.29	0.07	-0.44**
Step 2			
Internalized Homophobia	-0.13	0.06	-0.19*
Personal Mastery	0.72	0.14	0.51**
Social Support	0.06	0.04	0.16

Note. Step 1: $F(1, 73) = 17.57, p < 0.01; R^2 = 0.19$;
 Full Model: $F(3, 71) = 22.66, p < 0.01; R^2 = 0.49$;
 Change Statistics: $F(2, 71) = 20.51, p < 0.01; R^2\Delta = 0.30$.
 * $p < .05$, ** $p < .01$.

Table 13

Summary of Regression Analyses for Life Satisfaction among LGB Adults (N= 68)

Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Internalized Homophobia	-0.17	0.06	-0.33**
Step 2			
Internalized Homophobia	-0.01	0.05	-0.02
Personal Mastery	0.66	0.11	0.61**
Social Support	0.06	0.03	0.19*

Note. Step 1: $F(1, 67) = 7.92, p = 0.01; R^2 = 0.11$;
 Full Model: $F(3, 65) = 27.17, p < 0.01; R^2 = 0.56$;
 Change Statistics: $F(2, 65) = 33.02, p < 0.01; R^2\Delta = 0.45$.
 * $p < .05$, ** $p < .01$.

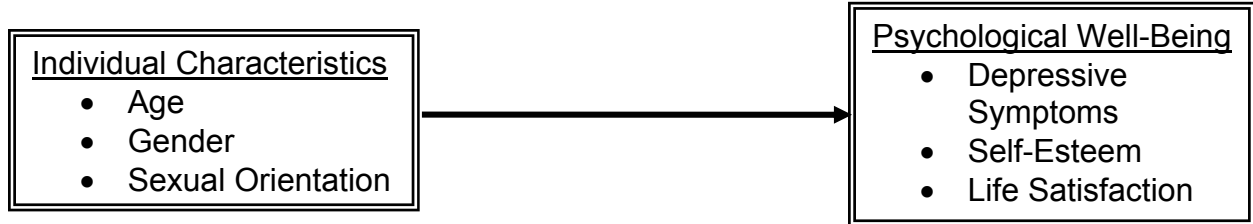
Figure Caption

Figure 1. Conceptual model of the specific aims which test the relations between individual characteristics, personal/social resources, and societal attitudes on psychological well-being.

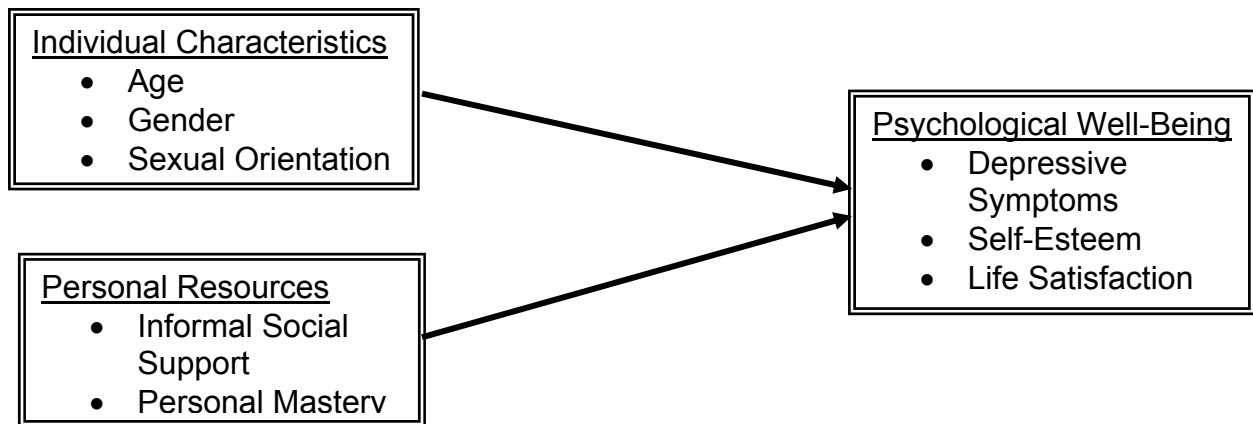
Figure 2. Number of social network members by convoy reported by 332 lesbian, gay, and heterosexual individuals between the ages of 18-30 (* $p < .01$ for all pairs).

Figure 3. Scores on the five subscales of the LGB-KASH reported by 263 heterosexuals (* $p < .01$ for all pairs except Religious Conflict and Internalized Affirmativeness).

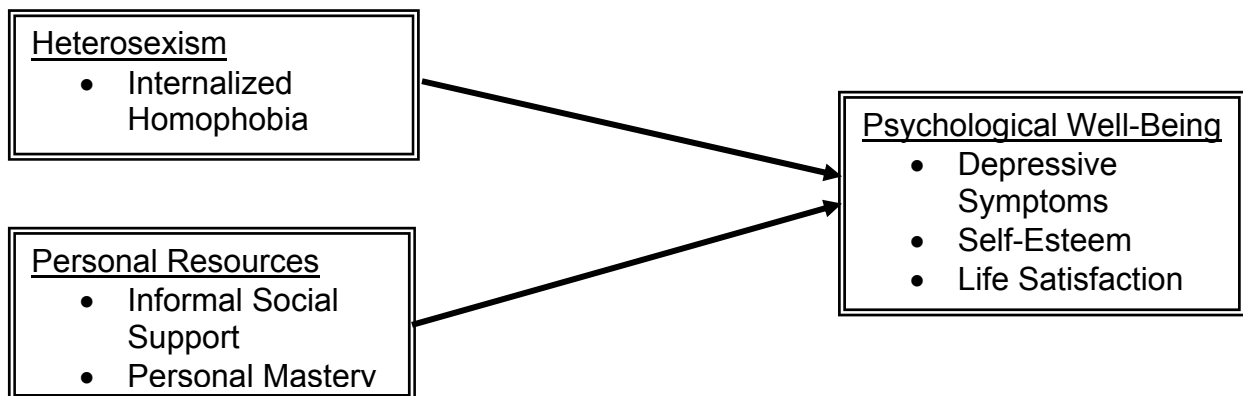
Specific Aim 1

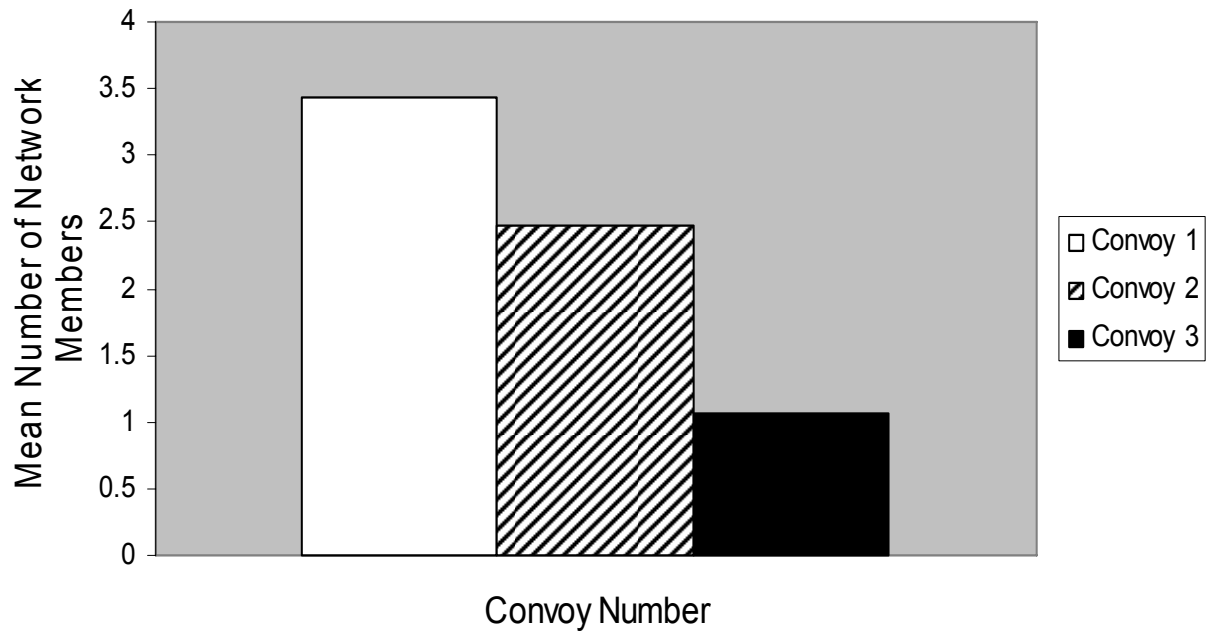


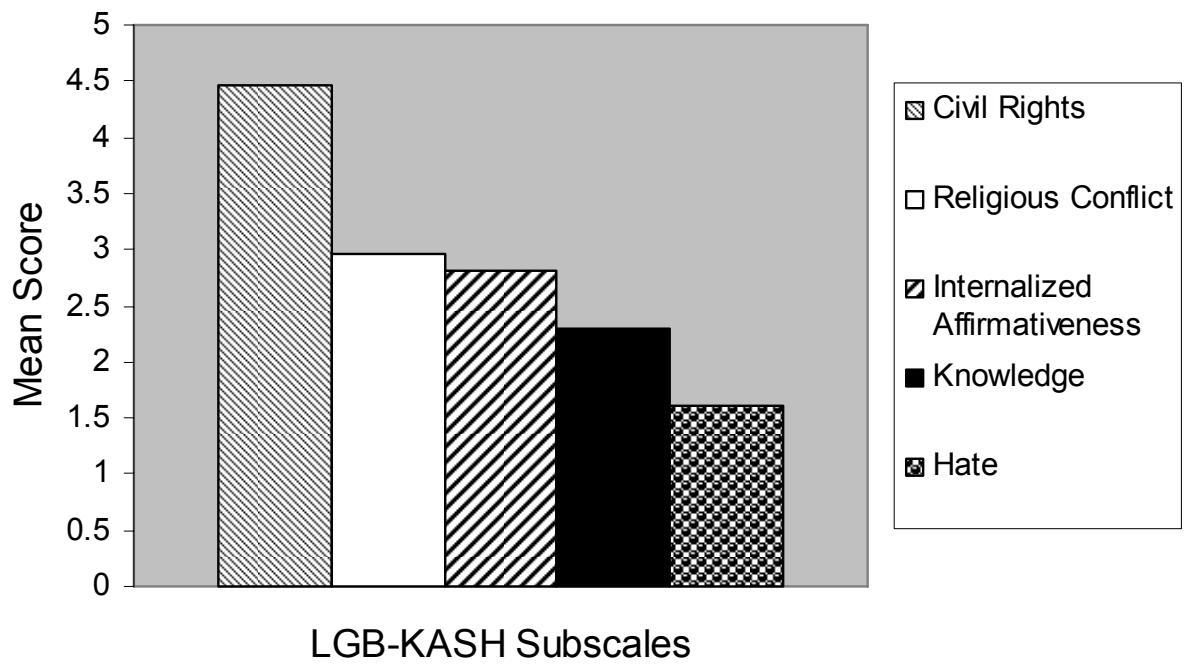
Specific Aim 2



Specific Aim 3

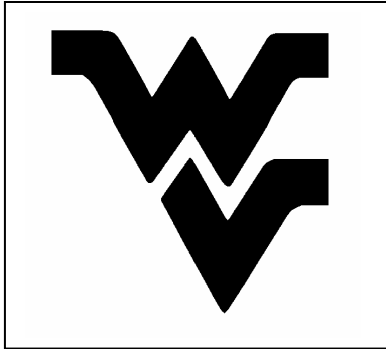






Appendix A: Study Announcement

Are you Over the Age of 18?



If so, you are invited to take part in an important research study on Social Support and Heterosexism in Young and Middle-Aged Adults at West Virginia University.

We are seeking the help of individuals age 18+ to take part in new and important research on heterosexism and the diverse kinds of families that provide support to the young and middle-aged adult.

These do-it-yourself surveys take approximately 30 minutes to complete and can be completed on-line at the following: www.SocialSupportSurvey.com. Your help with this project will be invaluable to understanding the influence of societal attitudes on well being.

**For More Information,
leave a toll-free message
for Mindi Spencer,
Department of
Psychology at
1-866-535-3343,
ext. 31680**

Appendix B: Background Variables

The first part of this survey is background information about YOU.

1. What is your year of birth? 19 ____
2. What is your gender?
 - ☐ Male
 - ☐ Female
3. To which racial/ethnic group do you belong?
 - ☐ Non-Hispanic White
 - ☐ Hispanic White
 - ☐ Black or African American
 - ☐ American Indian or Alaska Native
 - ☐ Asian
 - ☐ Native Hawaiian or Other Pacific Islander
 - ☐ Other (Please specify) _____
4. How would you describe your area of residence?
 - ☐ Urban
 - ☐ Rural
5. Do you currently live?
 - ☐ Alone
 - ☐ With a spouse or domestic partner
 - ☐ With a friend/non-relative
 - ☐ With relatives
 - ☐ Other (Please specify) _____
6. How long have you lived in your current residence? _____ years
7. What best describes your sexual orientation (Please indicate the number):

0	1	2	3	4	5	6
Exclusive Heterosexual			Bisexual			Exclusive Lesbian or Gay
8. What age were you when you first realized your sexual orientation?
 - ☐ Always known
 - ☐ Around puberty
 - ☐ Other _____ years old

9. What is your religion?

- ☐ Protestant
- ☐ Catholic
- ☐ Jewish
- ☐ None
- ☐ Other (Please specify)_____

10. What is your current relationship status?

- ☐ In a committed relationship
- ☐ Single
- ☐ Divorced
- ☐ Widowed
- ☐ Other (Please specify)_____

11. What is your primary role?

- ☐ College or university student
- ☐ Employed (full or part-time)
- ☐ Unemployed
- ☐ Retired
- ☐ Homemaker
- ☐ Other (Please Specify)_____

12. What is the highest grade or level of education you've completed?
(Please Specify)_____

13. Do you currently attend West Virginia University?

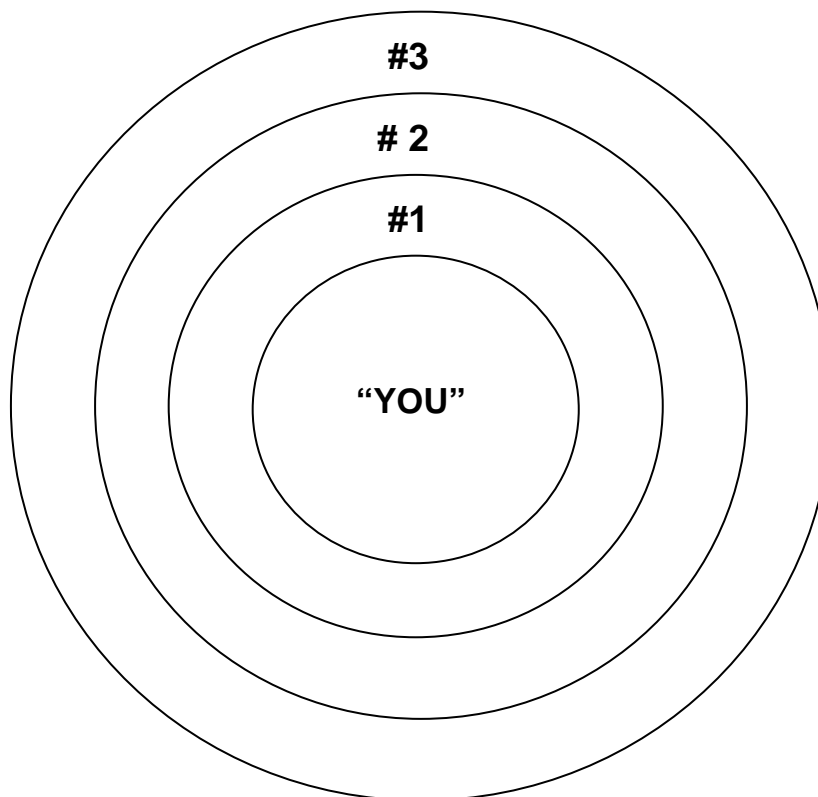
- ☐ Yes
- ☐ No

14. How much difficulty do you have paying your bills?

- ☐ A great deal of difficulty
- ☐ Some difficulty
- ☐ A little difficulty
- ☐ No difficulty

**Appendix C: Modified Version of the Convoy Model
(adapted from Kahn & Antonucci, 1980)**

Instructions for the social support network diagram.



The 3 circles in the above diagram should be thought of as a social support network, including people who are important in your life right now but who are not equally close. On the following pages, you will be asked to indicate the people who are in your social support network. Think about the people to whom you feel so close that it is hard to imagine life without them. Such persons would be placed on the innermost circle of the diagram (Circle #1), closest to "YOU."

Now, think about people to whom you may not feel quite that close, but who are still very important to you. These people would be placed on the second circle (Circle #2), and so forth. The questions on the following pages ask you to list

members of your social support network and where you would place them on this diagram. Please read the instructions carefully.

Person #1 First Name: _____

Think about a person in your life. Please indicate his/her first name, relationship to you, approximate age, gender, and how long you have known him/her.

1. Relationship to you (Please fill in): _____

2. Person's approximate age (Please fill in): _____

3. Person's gender (Please check one)

- ☐ Male
☐ Female

4. How long have you known this person? _____ years

5. Where would you place this person in your social support network? (Please select one)

- ☐ Circle #1: So close and important to you that it would be hard to imagine life without him/her.
- ☐ Circle #2: Person to whom you may not feel quite as close to as the people in the first circle (Circle #1), but who is still very important to you.
- ☐ Circle #3: Person who you have not already mentioned, but who is close enough and important enough in your life that he/she should be in your social support network.
-
-

Participants have the opportunity to list up to 14 people. After the first person, an additional button is added so they can exit the social network diagram section.

**Appendix D: Medical Outcomes Study Social Support Survey
(Sherbourne & Stewart, 1991)**

Instructions: People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? Select one answer for each line.

	None of the Time	A Little of the Time	Some of the Time	Most of the Time	All of the Time
<i>Emotional/Informational Support:</i>					
Someone you can count on to listen to you when you need to talk					
Someone to give you information to help you understand a situation					
Someone to give you good advice about a crisis					
Someone to confide in or talk to about yourself or your problems					
Someone whose advice you really want					
Someone to share your most private worries and fears with					
Someone to turn to for suggestions about how to deal with a personal problem					
Someone who understands your problems					
<i>Tangible Support:</i>					
Someone to help you if you were confined to bed					
Someone to take you to the doctor if you needed it					
Someone to prepare your meals if you were unable to do it yourself					
Someone to help with daily chores if you were sick					
<i>Affectionate Support:</i>					
Someone who shows you love and affection					
Someone to love you and make you feel wanted					
Someone who hugs you					
<i>Positive Social Interaction:</i>					
Someone to have a good time with					
Someone to get together with for relaxation					
Someone to do something enjoyable with					
<i>Additional Item:</i>					
Someone to do things with to help you get your mind off things					

Appendix E: Personal Mastery (Pearlin & Schooler, 1978)

Please indicate the extent to which you agree or disagree with each of the following statements. Circle one response for each question.

I have little control over the things that happen to me.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is really no way I can solve some of the problems I have.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
What happens to me in the future mostly depends on me.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
There is little I can do to change many of the important things in my life.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I often feel helpless in dealing with the problems of life.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Sometimes I feel that I'm being pushed around in life.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I can do just about anything I set my mind to do.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Appendix F: Internalized Homophobia (Herek et al., 1997)

The following scale is a brief measure of internalized homophobia. Please indicate whether you strongly agree, agree somewhat, neither agree nor disagree, disagree somewhat, or strongly disagree with the following statements.

I have tried to stop being attracted to the same sex in general.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
If someone offered me the chance to be completely heterosexual, I would accept the chance.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
I wish I weren't lesbian/gay/bisexual.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
I feel that being lesbian/gay/bisexual is a personal shortcoming for me.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
I would like to get professional help in order to change my sexual orientation from lesbian/gay/bisexual to straight	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
I have tried to become more sexually attracted to the other sex.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE

I often feel it best to avoid personal or social involvement with other lesbian/gay/bisexual individuals.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
I feel alienated from myself because of being lesbian/gay/bisexual.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE
I wish that I could develop more erotic feelings about the other sex.	STRONGLY AGREE	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	STRONGLY DISAGREE

Appendix G: Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (Worthington et al., 2005)

Instructions: Please use the scale below to respond to the following items. Circle the number that indicates the extent to which each statement is characteristic or uncharacteristic of you or your views. Please try to respond to every item.

1	2	3	4	5	6
Very characteristic of me or my views				Very uncharacteristic of me or my views	

NOTE: LGB = Lesbian, Gay, or Bisexual.

Please consider the ENTIRE statement when making your rating, as some statements contain two parts.

1. I feel qualified to educate others about how to be affirmative regarding LGB issues.

1	2	3	4	5	6

2. I have conflicting attitudes or beliefs about LGB people.

1	2	3	4	5	6

3. I can accept LGB people even though I condemn their behavior.

1	2	3	4	5	6

4. It is important to me to avoid LGB individuals.

1	2	3	4	5	6

5. I could educate others about the history and symbolism behind the "pink triangle."

1	2	3	4	5	6

6. I have close friends who are LGB.

1	2	3	4	5	6

7. I have difficulty reconciling my religious views with my interest in being accepting of LGB people.

1	2	3	4	5	6

8. I would be unsure what to do or say if I met someone who is openly lesbian, gay or bisexual.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

9. Hearing about a hate crime against a LGB person would not bother me.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

10. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

11. I think marriage should be legal for same sex couples.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

12. I keep my religious views to myself in order to accept LGB people.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

13. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

14. I sometimes think about being violent toward LGB people.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

15. Feeling attracted to another person of the same sex would not make me uncomfortable.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

16. I am familiar with the work of the National Gay and Lesbian Task Force.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

17. I would display a symbol of gay pride (pink triangle, rainbow, etc.) to show my support of the LBG community.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

18. I would feel self-conscious greeting a known LGB person in a public place.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

19. I have had sexual fantasies about members of my same sex.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

20. I am knowledgeable about the history and mission of the PFLAG organization.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

21. I would attend a demonstration to promote LGB civil rights.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

22. I try not to let my negative beliefs about LGB people harm my relationships with the lesbian, gay, or bisexual individuals I know.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

23. Hospitals should acknowledge same sex partners equally to any other next of kin.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

24. LGB people deserve the hatred they receive.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

25. It is important to teach children positive attitudes toward LGB people.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

26. I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

27. Health benefits should be available equally to same sex partners as to any other couple.

|-----|-----|-----|-----|-----|
1 2 3 4 5 6

28. It is wrong for courts to make child custody decisions based on a parent's sexual orientation.

|-----|-----|-----|-----|-----|

SCORING:

HATE = 4, 24, 8, 14, 9, 18

KNOWLEDGE = 20, 10, 16, 5, 1

CIVIL RIGHTS = 27, 23, 11, 28, 25

RELIGIOUS CONFLICT = 26, 12, 22, 7, 3, 13, 2

INTERNALIZED AFFIRMATIVENESS = 19, 15, 17, 6, 21

There are no reverse scored items. Subscale scores are obtained by averaging ratings on items receiving a response for each participant. As such, if item # 19 is not rated by a specific respondent, only the remaining four items on the internalized affirmativeness subscale are used to obtain the average, and so on. This method ensures comparable scores when there is missing data.

Appendix H: Objective LGB Resource Inventory (Eisenberg & Wechsler, 2003)

1. Presence of LGB student organization (no group, 1 group, 2+ groups) — **1 group**
2. Frequency of LGB group meetings (less than once/week, once/week, more than once/week) — **once/week**
3. Year the first LGB group was founded (1970s, 1980s, 1990-1994, 1995-1999, 2000-2004) — **1970s**
4. Appointment of a paid staff person focused on LGB programming (yes, no) — **not paid (all work on a volunteer basis)**
5. Existence of a university-wide equal opportunity policy which explicitly mentions sexual orientation as a protected class (yes, no) — **yes, available at the following: <http://www.wvu.edu/~socjust/aaeopolicy.htm>**
6. Presence of a formal LGB studies program (yes, no) — **no**
7. Number of academic courses with LGB issues specified in the course title (none, 1-2, 3 or more) — **3-4 (Spring, 2006)**
8. Presence of campus housing units specified as LGB-friendly (yes, no) — **no**
9. Presence of a Safe Zone or Allies program whereby supportive faculty and staff can identify themselves as part of a support system to students concerned about LGB issues (yes, no) — **yes**
10. Presence of other LGB-specific resources such as counseling or a resource library (none, some additional resources, many additional resources) — **yes, marginally**

Responses standardized to a scale of 0-2 (e.g., no=0, yes=2), and summed to a single index of LGB resources with a potential range of 0-20.

West Virginia University LGB Resources: (1+1+2+0+2+0+2+0+2+1) = 11

**Appendix I: Center for Epidemiological Studies Depression Scale
(CES-D; Radloff, 1977)**

Here are some statements about feelings you may or may not have had in the past week. Please indicate how often you have felt each way during the past week. Circle one response for each question.

I was bothered by things that usually don't bother me.	Rarely	Sometimes	Occasionally	Most Times
I did not feel like eating; my appetite was poor.	Rarely	Sometimes	Occasionally	Most Times
I felt that I could not shake off the blues even with help from my family or friends.	Rarely	Sometimes	Occasionally	Most Times
I felt that I was just as good as other people.	Rarely	Sometimes	Occasionally	Most Times
I had trouble keeping my mind on what I was doing.	Rarely	Sometimes	Occasionally	Most Times
I felt depressed.	Rarely	Sometimes	Occasionally	Most Times
I felt everything I did was an effort.	Rarely	Sometimes	Occasionally	Most Times
I felt hopeful about the future.	Rarely	Sometimes	Occasionally	Most Times
I thought my life had been a failure.	Rarely	Sometimes	Occasionally	Most Times

I felt fearful.	Rarely	Sometimes	Occasionally	Most Times
My sleep was restless.	Rarely	Sometimes	Occasionally	Most Times
I was happy.	Rarely	Sometimes	Occasionally	Most Times
I talked less than usual.	Rarely	Sometimes	Occasionally	Most Times
I felt lonely.	Rarely	Sometimes	Occasionally	Most Times
People were unfriendly.	Rarely	Sometimes	Occasionally	Most Times
I enjoyed life.	Rarely	Sometimes	Occasionally	Most Times
I had crying spells.	Rarely	Sometimes	Occasionally	Most Times
I felt sad.	Rarely	Sometimes	Occasionally	Most Times
I felt that people disliked me.	Rarely	Sometimes	Occasionally	Most Times
I could not get "going."	Rarely	Sometimes	Occasionally	Most Times

Appendix J: Rosenberg (1965) Self-Esteem Scale

		1. STRONGLY AGREE	2 AGREE	3. DISAGREE	4. STRONGLY DISAGREE
1.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
2.	I feel that I have a number of good qualities.	SA	A	D	SD
3.	All in all, I am inclined to feel that I am a failure.**	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.**	SA	A	D	SD
6.	I take a positive attitude toward myself.	SA	A	D	SD
7.	On the whole, I am satisfied with myself.	SA	A	D	SD
8.	I wish I could have more respect for myself.**	SA	A	D	SD
9.	I certainly feel useless at times.**	SA	A	D	SD
10.	At times I think I am no good at all.**	SA	A	D	SD

Appendix K: Life Satisfaction (Neugarten et al., 1961)

These statements are about life in general. Please indicate whether you agree or disagree with each. Circle one response for each question.

		Agree	Disagree
1.	As I grow older, things seem better than I thought they would be.	Agree	Disagree
2.	I have gotten more of the breaks in life than most of the people I know.	Agree	Disagree
3.	This is the dreariest time of my life.	Agree	Disagree
4.	I am just as happy as when I was younger.	Agree	Disagree
5.	My life could be happier than it is now.	Agree	Disagree
6.	These are the best years of my life.	Agree	Disagree
7.	Most of the things I do are boring or monotonous.	Agree	Disagree
8.	I expect some interesting and pleasant things to happen to me in the future.	Agree	Disagree
9.	The things I do are as interesting as they ever were.	Agree	Disagree
10.	I feel old and somewhat tired.	Agree	Disagree
11.	I feel my age, but it does not bother me.	Agree	Disagree
12.	As I look back on my life, I am fairly well satisfied.	Agree	Disagree
13.	I would not change my past life even if I could.	Agree	Disagree
14.	Compared to other people my age, I've made a lot of foolish decisions in my life.	Agree	Disagree
15.	Compared to other people my age, I make a good appearance.	Agree	Disagree
16.	I have made plans for things I'll be doing a month or a year from now.	Agree	Disagree
17.	When I think back over my life, I didn't get most of the important things I wanted.	Agree	Disagree
18.	Compared to other people, I get down in the dumps too often.	Agree	Disagree
19.	I've gotten pretty much what I expected out of life.	Agree	Disagree
20.	In spite of what people say, the lot of the average man is getting worse, not better.	Agree	Disagree

Appendix L: Online Information and Consent Form

Consent and Information Form

Social Support and Heterosexism in Young and Middle-Aged Adults

Introduction: I have been invited to participate in this research study, which has been explained to me by Mindi Spencer, M.A. This study is being conducted by Mindi Spencer to fulfill the requirements for her Dissertation in the Department of Psychology at West Virginia University. This study will be conducted under the supervision of Julie Patrick, Ph.D.

Purposes of the Study: The purpose of the study is to learn more about heterosexism, the diverse social support networks available to young and middle-aged adults, and the effects of these factors on well-being.

Description of Procedures: This study involves answering questions in an internet-based format at www.SocialSupportSurvey.com. It will take approximately 30 minutes to complete this self-administered survey. Approximately 164 adults will be entered into the study. I understand that I may see the all of the items before submitting my survey and that I do not have to answer all the questions if I decide to participate.

Risks and Discomforts: There are no known or expected risks from participating in this study, except for mild discomfort related to the personal nature of some of the questions. I am aware that I do not have to answer any questions that make me feel uncomfortable.

Alternatives: I understand that I do not have to participate in this study. I will earn extra credit for participating in this study, but other options are available for earning the same extra credit.

Benefits: I understand that this study is not expected to be of direct benefit to me, but the knowledge gained may be of benefit to others.

Financial Considerations: There are no financial costs associated with participation. I understand that I will earn extra credit for participating in this study. Other options are available for earning the same extra credit.

Contact Persons: For more information about this research, I can contact Mindi Spencer through Dr. Patrick's office toll-free (1-866-535-3343, ext. 31680) or e-mail Ms. Spencer at m Spencer@hsc.wvu.edu. For questions about my rights as a research participant, I can contact the Executive Secretary of the Institutional Review Board at (304) 293-7073.

Confidentiality: I understand that any information about me obtained as a result of my participation in this research will be kept as confidential as legally possible. I understand also that my research records, just like hospital records, may be subpoenaed by court order or may be inspected by federal regulatory authorities. In

any publications that result from this research, neither my name nor any information from which I might be identified will be published without my consent.

Voluntary Participation: Participation in this study is voluntary. I understand that I am free to withdraw my consent to participate in this study at any time. Refusal to participate or withdrawal will involve no penalty or loss of benefits. Clicking on a button below means that I have read this Consent and Information Form, have been given the opportunity to ask questions about this research study, and have received answers concerning areas that I did not understand. I understand that I may obtain a printed copy of this Consent and Information Form by contacting the researcher.

- ⊕ **By clicking this button, I willingly agree to participate in this study.**
- ⊕ **By clicking this button, I decline to participate in this study.**